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Oppose Any Limitation of Productive Machinery

Dr. C. L. Herty Says Nothing Should Be Done to Hamper the Birth of a New Industry in the South—R. L. Bradshaw Asserts Approval Will Plunge Capital Goods Industry Deeper into the Depression—F. J. Sensenbrenner Says the Paper Industry Having Complied With NRA Needs This Protection. Proposal Presented by S. L. Willson

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 14, 1934—Bitter opposition to any limitation of productive machinery in the paper and pulp industry, featured a public hearing on recommendations by the Industry's Code Authority to do so, before Assistant Deputy Administrator F. C. Lowthrop at the Willard Hotel last Friday.

The Code Authority's recommendation would forbid the "installation by a person engaged or intending to engage in this industry of any paper, paperboard or converting machine or pulp digester or grinder except for replacement without substantial increase of productive capacity" without the permission of the Administrator.

Proposal Presented by S. L. Willson

The proposal was presented by S. L. Willson, of Holyoke, Mass., Chairman, and F. J. Sensenbrenner, of Neenah, Wis., a member of the Code Authority. The latter pointed out that the industry had done much toward the effectuation of the National Recovery Act by increasing employment 40 per cent and payrolls 30 per cent, but insisted that they could go no further without the help that this restriction would render. He went on to say that the principle of restricting production to demand had already been recognized by the Government and quoted from a statement from Secretary of Agriculture Wallace regarding the restrictions to be applied to the beet sugar industry.

Dr. Herty Forefront of Opposition

Dr. Charles H. Herty, an NRA Deputy Administrator, who is developing a process by which southern pine can be used in the manufacture of paper pulp, was the forefront of the opposition, but owing to a Committee meeting which he must attend, Senator Richard B. Russell, Jr., of Georgia, was permitted to speak first. Senator Russell urged that the Administration do nothing that would impair or destroy what the South expects will be a flourishing industry.

He said that the State of Georgia and the City of Savannah had both appropriated large sums of money to aid Dr. Herty in his work of development. This industry will give value to slash and loblolling pine hitherto regarded as useless. This type of pine grows fast, he said, and will cause marginal lands to become productive.

Thomas Allen, speaking for the newsprint industry, opposed the recommendation of the Code Authority. His industry, he said, would be very unlikely to go into this type of manufacturing, but wanted to be free to do so if it seemed economic to do so.

R. L. Bradshaw Emphatic in Denunciation

R. L. Bradshaw, speaking for the Machinery and Allied Products Institute, was very emphatic in his denunciation of the proposal.

"Approval of this restricting of productive machinery in this industry," he said, "will plunge the Capital Goods Industry still deeper into the depression, create a monopoly and prevent increased employment."

Other Objections

William F. Schweitzer told the Assistant Deputy that his concern had laboriously built up a business wherein they were able to compete with foreign paper. They had just secured a solid foothold, aided by the depreciated dollar, he said. Now our foreign competition wants to come into this country and manufacture. Nothing can stop them unless this recommendation is approved.

William L. Wilson, of Florida, urged the disapproval of the recommendation. "Let's," said Mr. Wilson "control the import situation before we attempt to limit production."

J. H. Allen, of the Florida Agricultural and Industrial Relief Association declared that such an amendment as this would in effect, give protection to foreign industries from our own. The State of Florida has applied to the Government for funds with which to build a paper mill. "The paper and pulp industry is in a far better condition today than it has been in a very long time," said Mr. Allen. "We owe every bit of our improved status to the NRA. Let us not try to go too far. The consumer has indicated his willingness to pay costs. But there is a limit to the extent to which he can be pushed."

Dr. Herty declared that nothing should be done to hamper the birth of what amounts to a new industry in the south. "This new industry," he said, "looks to the utilization of a raw material that is now unused and considered worthless. It has been definitely proven that newsprint can be made from southern pine for a lower price than in the northern part of the United States and Canada."

Price Bros. & Co. Situation is Still Uncertain

Committee Representing the Preferred Shareholders Blocks Ratification of the Plan of Reorganization Sponsored by the Duke-Price Power Co. At the Meeting in Quebec Friday—New System for Cooking Sulphite Pulp Put in Operation at Campbellton, N. B.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 12, 1934—The meeting of creditors, preferred and common shareholders of Price Brothers and Company, Limited, in bankruptcy, held in Quebec City on Friday last accomplished nothing in respect to the plan of reorganization put forward by the company, with the sponsorship of the Duke-Price Power Company and Lords Beaverbrook and Rothermere. The meeting was called to consider and, if thought advisable, ratify this plan, but a committee headed by H. J. Symington, K. C., representing the company's preferred shareholders blocked ratification of the plan by a vote of $3,100,000, or 80.2 per cent, against shares to a par value of $768,600 cast in its favor and the meeting was adjourned sine die.

To enable the plan to carry, in such cases of reorganization, it has to secure the endorsement of not less than 75 per cent, in value, of each class of creditor and shareholder.

The creditors endorsed the plan overwhelmingly, but it was strongly opposed by the preferred shareholders, and after a protracted discussion resulting as above stated, Mr. Symington stated that the shareholders protective committee expected a better offer from the English firm of Bowater's Paper Mills.

Little Further Progress Can Be Achieved

The Hon. Gordon Scott, trustee-in-bankruptcy, questioned at the close of the meeting as to what is likely to be the procedure now, gave the opinion that little further progress can be achieved until the protective committee of the preferred shareholders, which, apart from its definite rejection of the company plan, refused to endorse any particular scheme, though noting the superiority of the Bowater offer in certain material pariculars, finds itself in a position to adopt a well-defined attitude in respect to some such plan, whereupon, presumably Hon. Mr. Scott may convene another meeting to which such new plans, or modification of present plans, will be submitted.

It was not made clear just what the exact position of affairs is now as a result of this deadlock. The Bowater offer to the bondholders—a definite agreement with that group of security holders—is still a most important factor in the situation. The bondholders may exercise their right of foreclosure, and force a sale of the company, an objective, it was pointed out, that might involve costly delays to the detriment of the company, its creditors and security holders.

New Sulphite Cooking System a Success

According to a story appearing in the *Montreal Herald* a complete new system for the cooking of sulphite pulp has just been put into operation in one of the most up-to-date sulphite pulp and paper mills in Canada, at Campbellton, N. B., and as a result it is claimed that far greater efficiency with consequent saving in cost, has been obtained. The report proceeds:

"The new system, which has been worked out and patented by G. L. Hellstrom, President of Paper Mill Equipment Limited, Montreal, allows not only the liquor, but whatever chips or stock may follow, to be circulated in the digester to greater advantage, the digester circulation now operating continuously at around 100 per cent efficiency, whereas hitherto it has been possible to operate only at an average of 50 per cent efficiency, due to screens becoming clogged.

"Mr. Hellstrom states that the installation at Campbellton is the first of its kind in the world and that practically all the material used in the construction was manufactured at Shawinigan Falls.

"With this system, he states, it is possible to reduce steam consumption well over 25 per cent, the steam consumption in the Campbellton mill now being less than 3,400 lbs. per ton of bleached pulp produced. It is also possible to produce five or six tons more pulp per day from each digester at practically no extra cost other than the cost of the wood. This means an increased income from the company's five digesters of about a quarter of a million dollars per year, running at peak load."

It is understood here that the mill referred to in which the installation has been made is the Restigouche Company's mill, which belongs to the Fraser group.

Annual Report of the Fraser Group

The consolidated report of Fraser Companies, Fraser Paper and Restigouche Company, shows earnings last year of $1,115,540 before providing for depreciation, depletion and interest charges. This compares with only $111,477 in the previous year.

The loss for the year after making provision for all charges was $615,448, or $1,700,973 less than in the previous year. Of this improvement operating results contributed $1,080,059.

In his report to the shareholders, K. S. MacLachlan, president, had the following to say in part:

"The Restigouche sulphite pulp mill operated at full capacity during the entire year. A greater volume of business was obtained for the pulp and paper mills at Edmundston, New Brunswick, and Madawaska, Maine, than during the previous year. In spite of this improvement, these mills were operated at considerably less than their capacity.

"The average market values of both pulp and paper were lower than during the previous year, but production costs were reduced sufficiently to offset this disadvantage and obtain an improved result.

"The volume of lumber sales was approximately the same as during the previous year, but an increase in price level was established.

"Results of operations during the last half-year represented an improvement over those obtained during the first half-year, but the improvement was not sufficient to overcome the loss which had already been incurred."

Paper Industry Authority Meets

WASHINGTON, D. C., March 14, 1934—The Paper Industry Authority met here last Friday and received reports from the chairman of the various committees. Among those attending the meeting were: S. L. Willson, chairman; George H. Mead, Charles Gordon, H. W. Ellerson, D. C. Everest, A. L. Lowenstein, J. L. Reigel, F. J. Sensenbrenner and A. R. Graustein.

Boston Paper Market Conditions Generally Steady

Demand for Various Standard Grades of Paper Moderately Active in Most Instances—Some Fine Paper Manufacturers Reported Busy, With Orders From Three to Six Weeks Ahead—Paper Stock Collections Greatly Retarded by Snowstorms

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 12, 1934—Paper dealers here as a whole transacted a fair amount of business during last week, although some reported the market as "pretty quiet." The market may be said in general to be holding steady. It is stated that New England paper mills are not selling quite so much paper as they might, because jobbers bought considerable quantities of merchandise at former prices, speculatively, and have yet a good supply on hand. Some manufacturers of fine paper, however, are reported to be busy with orders from three to six weeks ahead.

Additional business seems to be in prospect for manufacturers and dealers in kraft, paper bags, box board and paper boxes from market gardeners, who find that they have to pay higher prices for wooden boxes in which to pack their vegetables. Wooden box manufacturers have increased their prices under the code of their industry.

Speaking of conditions generally in the East, Burt Halter, of the Lee Hardware Company, Saline, Kansas, which sells a padding compound to paper dealers, is very optimistic. He notes an 80 per cent increase in business of his company from May, 1933, to January, 1934, inclusive, over the corresponding period the year previous. He attributes 30 per cent due to the advance in business and 50 per cent to the improvement in the product.

Paper stock is fairly steady. There seems to be plenty of old papers for all buyers at present, although the last two weeks have been "tough" on account of difficulties encountered in collecting. Two trucks of a dealer with a capacity of three tons each in one day collected only 1,500 pounds in all. Due to snow piled at the side of the street, it was necessary to stop in the center, and sometimes it was impossible to stop very long, due to blocking traffic. Bagging is moving, as well as new and old domestic rags. It is reported that packers feel that shirt cuttings should be higher, but it is difficult to secure advanced prices.

Association Activities

The March meeting of the New England Paper Merchants Association was held Thursday evening at the Boston Chamber of Commerce, with 79 attending. President F. Bendel Tracy presided. Reports of the various committees as to what developed at the convention of the National Paper Trade Association in New York were read. Charles A. Esty, member of the Code Authority and chairman of Region No. 1, made a report as to what took place at a meeting of the Code Authority in New York, February 15, and also a report of a Regional Committee meeting, held in Boston, March 2.

Notices of the 48th annual and 177th regular meeting of the Boston Paper Trade Association to be held at the Algonquin Club, March 21, have been sent out by Secretary J. L. Hobson. General Daniel Needham, Commissioner of Public Safety, is to be the guest speaker. There will be a reception at 6 o'clock and dinner at 6.30.

News of the Trade

The entire staff of Carter Rice & Co., Corp. received last week a bonus check representing five per cent of the compensation received during the half-year ended December 31, 1933.

The American Writing Paper Company has received some excellent returns from the first mailing on the Trojan Bond advertising campaign, with requests for a portfolio. The company is looking forward to a prosperous month.

John Carter & Co., Inc., is displaying at the office of the concern a demonstration of board products of the Falulah Paper Company, Fitchburg, Mass. The display, which includes advertising of various companies, was originally brought to the company in connection with a sales meeting.

Leon M. Poore, sales manager of John Carter & Co., sailed Saturday from New York for St. Petersburg, Fla. He expects to drive back in an automobile.

Summerfield Eney, of the New York office of the Champion Coated Paper Company, of Hamilton, Ohio, is to speak before the Boston Advertising Club and the Boston Craftsmen, Monday evening, March 19, at the Boston Public Library. Mr. Eney is professor of printing at New York University. He will work with the salesmen of the Andrews Paper Company during the week of March 19 in the interests of the Champion Coated Paper Company.

The Massachusetts Paper Mills Corporation, Worcester, Mass., has been incorporated with a capital stock of 40 common shares of no par value. Joseph P. McCormack, Wheelwright, Mass., is president and treasurer. Grace E. Dion and Adele Kouri are the other incorporators.

Waste Material Code Enforcement

The National Association of Waste Material Dealers, Inc., will devote one of its sessions at the time of its Convention on March 19, 20 and 21, to the consideration of the subject "Code Enforcement and the Local Association." Invitations are being extended to all known local, state and sectional organizations representing any branch of the waste material trade to send delegates to participate in the above mentioned conference.

The National Association feels that the code enforcement problem is one of the big questions requiring a sound solution and it is hoped that by bringing representatives of as many of the local, state and sectional organizations as possible together sentiment can be crystalized in favor of some definite method as to the part these organizations can play in the proper enforcement of the code.

All organizations interested and desiring to send delegates to this conference should communicate with the secretary of the above-mentioned association, Times Building, New York, at an early date.

Paper Plant To Be Enlarged

[FROM OUR REGULAR CORRESPONDENT]

LOS ANGELES, Cal., March 10, 1934—The Willamette Paper Company, 2945 East Twelfth street has completed plans for the erection of a 200 by 150 feet concrete addition to its plant. This is a subsidiary of the Crown Zellerbach Corporation. It will manufacture paper bags in the new plant. Its principal output at present is fruit wrappers. It is expected to have the new plant operating within sixty days and about 60 additional employees to be used.

Paper Mill Operations Expand in Ontario

Demand for Various Grades of Fine Paper Fairly Heavy, With Considerable New Business in Sight—Book Paper and Offset Lines in Satisfactory Request—Consumers of Bond, Writing and Ledger Papers Absorbing Fair Tonnages from Mills

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 12, 1934—While the severe weather conditions which existed during February and part of March militated against business generally the wholesale paper trade was not materially affected and a fair volume of sales were recorded. Despite the fact that the printing industry is quiet the paper distributing houses are doing quite a fair business and the prospects for spring turnover are good. Both the printing and paper trades say that considerable business is being withheld temporarily and that a lot of orders for paper in the catalog and general advertising fields are about due to be released. Distributors of fine papers are doing a nice, steady business for the most part and conditions in the coarse paper market are already showing signs of improvement as the result of the new organization in that department which was recently effected. There is a buoyancy in both the fine and coarse paper markets such as has not existed for some time and it is confidently expected that the spring months will see both sections back to normal.

March opened with somewhat increased activity in paper manufacturing circles. Some of the fine paper mills report that there is considerable business in sight and that current demand is quite fair. Book paper is in good demand and offset lines are quite active. There is little sign as yet of a much desired return to the use of the better grade papers which means that the coated mills are still operating lightly. Possibly the average operation of all the mills is about 70 per cent capacity, while the coated mills are considerably below that figure. Bonds, writings and ledgers are firm in tone and consuming sources are absorbing fair tonnages from the mills and distributors. A considerable amount of book and offset papers is being sold in the West. Coarse paper and paper bag mills are operating lightly and could handle considerably more business than is coming their way and individual orders are inclined to be of the small order variety, with carload lots at a minimum.

There has been little improvement in the converting end of the paper business and manufacturing stationers and general stationery lines are quiet. There is only a comparatively small demand for envelopes and the call for blank books is light.

In the light weight paper field business is keeping up well. One leading Ontario tissue manufacturer states that February closed with a much larger volume of business than in the same month last year and that the outlook for really good business this spring was good. There is a strong demand for all lines of tissues and toilets. A really good business is also being done in greaseproof, waxing and glassine lines.

Spring business with the paper box manufacturers has not yet developed and the outlook in this department is none too bright. It is predicted, however, that when the spring activity opens it will come with a rush and the outlook for the paper box trade generally is said to be encouraging. Although spring orders have been deferred largely owing to the severity of the weather the box makers are confident they will get a fair amount of business in the next few months and the trade generally is optimistic as to the future.

Board mills continue to operate lightly with here and there a mill which is quite busy. One of the large mills reports that they have orders ahead for five weeks. The Trenton mill of Hinde & Dauch, which makes straw board, is quite busy. Mills in the immediate Toronto area are only moderately active.

Northern Pulpwood Men Organize

Asserting the pulpwood and timber industries in the Thunder Bay district for years have been harassed and penalized "by intolerant, boorish and fanatical agitators of foreign semi-political organizations" to the detriment of business and labor, the new Canadian Bushmen's union is launching a campaign, with headquarters at Fort William, against communistic activities in that area. The new union, registered under the Trades Unions Act, and affiliated with the All-Canadian Congress of Labor, was organized as the result of the winter strike in district pulpwood camps in which bush operations were paralyzed and 4,000 men left jobless for weeks. Hundreds of workers have joined the new union. The organization has just issued a statement declaring that paid agitators were responsible for strife in the camps and urging workers to align themselves with established organizations against communist operations. "The Industrial Lumber Workers' Union and the Industrial Workers of the World, with such membership as they could secure, have combined forces for the purpose of calling strikes and through force and threats have completely unorganized workers to obey their commands," says the statement. "They have failed miserably to either represent the pulpwood workers or to benefit them, and now they are striving for a general industrial upheaval."

Abitibi Co. Improving Its Position

Commenting on the reported increase in operations at the Iroquois Falls plant of the Abitibi Power and Paper Company, which is in the hands of receivers, officials of the company in Toronto said that there has been encouraging and somewhat increased demand for newsprint of late. It was impossible to predict prospects for the future, but continuance of improvement was looked for. From fifty to sixty additional employees would be required for the operation of the sixth machine now going into action, it was revealed.

Rosin Processors License Effective

WASHINGTON, D. C., March 12, 1934—A license for the turpentine and gum rosin processing industry was signed March 9 by Secretary of Agriculture Henry A. Wallace, effective March 13, at 12:01 A.M. Eastern Standard Time. The license supports a marketing agreement for the industry which became effective February 21.

The license requires compliance with the marketing agreement provisions which include purchases by licenses from producers in accordance with quotas based on production in the past four years; fixes a schedule of service charges for designating tags and labels; and sets rules looking to forest conservation.

The license applies to signatories to the marketing agreement as well as to those other processors in the industry who did not sign the agreement.

National Safety Council to Meet at Green Bay, Wis.

Plans Have Already Been Inaugurated for 1934 Convention by Executive Committee of Paper and Pulp Section—Suggestions for Safety Code of Paper and Pulp Industry Discussed at Appleton—Dr. B. W. Roland Addresses Technical Men

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 12, 1934—At a meeting of the executive committee of the Paper and Pulp section of the National Safety Council at Hotel Northland, Green Bay, last week, Cleveland, Ohio, was selected as the city for the 1934 convention. Plans already have been set in motion for this gathering, with its anticipated attendance of several thousand.

Members of the committee were guests of the Hoberg Paper and Fibre Company while in Green Bay. Those attending were: H. G. Gilson, of the Oxford Paper Company, Rumford, Me.; chairman of the section; George Burns, of the National Safety Council, Chicago; H. D. Banta, assistant superintendent of the Hoberg Company, and R. D. Dickinson, of the Cornell Wood Products Company, Cornell, Wis. Other members of the section present were: W. J. Peacock, personnel manager of the Northern Paper Mills, Green Bay; L. A. Martin, Employers Mutual Liability Company, Wausau, Wis., and Franz H. Rosebush, of the Nekoosa-Edwards Paper Company, Port Edwards, Wis.

After a discussion of the place of the next convention, Cleveland was selected because of its advantageous location to paper mills of the Miami river valley.

A report on new memberships for the paper and pulp section by H. D. Banta, chairman of the campaign, indicated that this section has garnered more than any of the forty other sections of the National Safety Council. The campaign will be continued with the hopes of increasing materially the convention attendance.

Following this meeting, another was held at Conway Hotel at Appleton, Wis., at which safety engineers of a number of Wisconsin mills were present. Criticisms and suggestions for the safety code of the paper and pulp industry were discussed. Mr. Burns was among those attending.

News of the Industry

An amendment to the articles of incorporation of the Gilbert Paper Company, Menasha, Wis., has been filed with the secretary of state at Madison, Wis., decreasing the board of directors from seven to six members. A vacancy on the board caused by the death of George Barnes, recently, therefore will not be filled. Present directors are: A. C. Gilbert, president; T. M. Gilbert, secretary, and George Gilbert, Frank J. Schneller and Fred Huband.

Dr. B. W. Roland, of the staff of the Institute of Paper Chemistry, Appleton, Wis., spoke at the March meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry following a dinner at Conway Hotel, Appleton, this week. His subject was "Colloid Chemistry in Pulp and Paper Manufacturing." An address was given also by E. L. Puffer, of the Heller-Merz Company, Chicago, on "Dyes in Paper Manufacturing."

Income taxes totalling $8,935 for 1926 and 1929 were levied against the Escanaba Paper Company, Escanaba, Mich., in a stipulation judgment filed by the federal board of tax appeals. The company had appealed claims totalling $18,395, charging the bureau of internal revenue failed to allow sufficient deductions from taxable income for losses, depreciation, business expense and income charged on the accounts of other years.

Plans have been approved by the War Department at Washington, D. C. for a spillway on the Fox River at Menasha, Wis., permitting water to be diverted directly from the government dam to Little Lake Butte des Morts. Permission must be obtained from the Neenah and Menasha Water Power Company, before the work can proceed. The question of consumption of water is involved, as the spillway is intended to relieve pollution along the lake shore.

A. F. Kletzien, secretary of the Fox River Paper Company, Appleton, Wis., has been appointed to the board of directors of the Wisconsin State Chamber of Commerce. His appointment was made by John L. Barchard, state president of the chamber and president of Hummel and Downing, Milwaukee.

David F. Blaser, engineer of the Northern Paper Mills, Green Bay, Wis., died last week at a Green Bay Hospital as the result of injuries received last October. He was employed with the mill for the last twelve years.

Joint Committee Meets on Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 14, 1934—W. W. Pickard, Deputy NRA Administrator in charge of paper appeared in executive session on Saturday before the Joint Congressional Committee on Printing in connection with the making of awards for the three months paper supply for the Government Printing Office from April 1 to July 1.

Mr. Pickard appeared at the request of Senator Duncan U. Fletcher, of Florida, chairman of the Joint Committee. In view of the fact that so many of the bids received by the Committee were identical and that some bids were lower the Joint Committee wanted to know just what their course should be in making awards.

Mr. Pickard explained to the committee the NRA situation in connection with prices and after a lengthy session he was asked to return again with some additional information on March 15. It is understood that there is a possibility that awards will be made following this meeting.

There is considerable speculation now also as to what effect all this will have on the annual supply of paper for the Printing Office for the fiscal year beginning July 1 for which bids will be asked in the near future.

Bill to Prohibit Wood Pulp Imports

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1934—Representative Smith of Washington has followed the lead of other members of the House and Senate and introduced a bill "to prohibit the importation of pulpwood, wood pulp, or any wood susceptible of use in manufacturing paper." The bill has been referred to the House Committee on Ways and Means and is as follows: "That the importation of all pulpwood, wood pulp, or other wood susceptible of being used in the manufacture of paper is hereby prohibited. Sec. 2. The provisions of this act shall be deemed to be a part of the Tariff Act of 1930."

The interesting part of all of these bills is that nothing will ever be done about them. They are being shelved.

Philadelphia Paper Market Displays Upward Trend

Demand for Various Grades of Both Fine and Coarse Paper Continues Fairly Persistent—Quotations on Tissues Are Generally Well Maintained—Offerings of Book and Ledger Stock Limited—Lower Grades of Paper Stock Dull

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 12, 1934—The business upswing still continues here and is conceded by those in the trade—both fine and coarse—to be truly cyclical, and while it is a recognized fact that a moiety of this concerns itself with association activities under the Code, it is none the less true that it affords encouragement for that which is looked upon as sure to come.

Tissues are holding firm and there has been no recession in price of paper napkins. The processing tax imposed on paper towel manufacturers has been absorbed by the manufacturer in most cases.

Efforts Being Made to Clarify the Situation

In the paper stock industry, Code administration is very much at sea, but efforts are being made to clarify the situation. Book stock and ledger stock have been in big demand but there is no great supply obtainable, and that which is available is gathered up as fast as possible. The cheaper grades are stagnant, due to the fact that the board mills are not yet operating on full time schedule.

Association Activities

On Friday of this week, the regular monthly meeting of the Philadelphia Paper and Cordage Association will be held with luncheon at 12:30 in the Ivory Room of the Adelphia Hotel. "Al" Nicholson, a magician with a hat full of tricks will be there to entertain and bewilder those in attendance. Leslie C. Bartlett, of the Eastern Paper Company, is chairman of the entertainment committee and suggests that the members help make this the biggest event of the year by bringing at least one guest—a prospective member.

The committee for promotion of interchange of business among members, headed by J. R. Howarth, is functioning 100 per cent, and it is anticipated that letterheads, as outlined at the February meeting, be presented, setting forth in just what products each member specializes. Mr. Howarth will collate, punch and bind all of these letters, supplying the binders personally; they will then be distributed among the members so that each may know the other's sales story.

Appointment of a new committee—to be known as the Announcement Committee—in the fine paper division, has been made this week, with Leonard Raymond, of the Raymond & McNutt Company, Ninth and Samson streets, as chairman, and associated with him on this committee which will concern itself with wedding invitations and panel cards to match, are D. L. Ward & Co., handling Linweave line; Harry J. Fleming, of the Garrett-Buchanan Company; Paper Merchants, and Thos. W. Price & Co.

News of the Trade

Harold M. Newell, of The American Manufacturing Company, Front and Shunk streets, recently met with an automobile accident, sustaining five fractures of the face and was confined to the Jewish Hospital for several weeks. He was removed to his home, and it is expected to take five to six weeks more before he will be able to return to his office.

During the week a four-alarm fire destroyed the wallpaper storehouse of the David Schultz Company, 757-61 East Passayunk avenue. Ten firemen were overcome by smoke, scorched or cut. Meyer Schultz, son of the owner, David Schultz, and an officer of the company, estimated the loss at more than $200,000. He said the four-story brick building and annex, in the rear, were valued at nearly $100,000 and stock worth more than that had just been stored.

W. B. Kilhour, president of the Quaker City Paper Company, is confined to his home with an attack of laryngitis.

Amos M. Coath, secretary and treasurer of F. Winne & Son, Inc., has been spending some time in Florida, and while there made a business trip by airplane to Mexico. He is expected to be at his desk next week.

Representative Miller of the Metropolitan Paper and Bag Mills, New York, called on the trade during the week.

James W. Hunt, for many years in business for himself in Philadelphia, has joined the sales force of D. L. Ward & Co.

Bagley & Sewall Elect Officers

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., March 5, 1934—Officials elected by the directors of the Bagley & Sewall Company for the ensuing year include the following: Charles W. Valentine, president; Edward S. Lansing, vice-president; Allan M. Perkins, vice-president; Carrol S. Thompson, treasurer and Harry C. Kinne, secretary. Announcement was made that conditions and prospects for business were better during the past year than in 1932.

Yearly savings on power costs will be saved by several paper mills through an application filed with the Wisconsin Public Service Commission by the municipal utility at Kaukauna, Wis., proposing reductions in rates aggregating $16,000 yearly. The estimated savings to the mills will be $4,000 to the Combined Locks Paper Company; $1,500 to the Thilmany Pulp and Paper Company; and $2,000 to the Union Paper and Bag Company. A hearing has been held with the expectation that the lower schedules will be granted.

Air Permeability of Paper Products

Relative to development of a standard method of measuring the air permeability of paper and fiber boards, the Bureau of Standards, Washington, D. C., has made precise measurements of the effect of the various experimental conditions on the test values. The quantity of air forced through paper in this test has been found to be proportional to the duration of the test, to the pressure difference across the specimen, and to the area of the specimen, and inversely proportional to the thickness of the material. The relative humidity of the atmosphere was found to affect the air permeability, but in such a way that neither the amount nor the direction of the effect can be predicted. The results indicate a remarkably close agreement in behavior between the air passages in paper and long capillary tubes, which finding indicates that air in passing through paper must travel a long, devious course through the labyrinthine structure of the tangled fibers.

Demand for Paper Gradually Improves in Chicago

Better Request Experienced for Fine Paper, With Prices Remaining Firm and Increasing Strength Predicted—Bond, Ledger, Book and Cover Papers Respond to Greater Activity in Business World—Kraft Wrapping Paper Steady

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 12, 1934—Volume picked up during the past six days in the Chicago paper market according to various reports. Improvement in demand was not considered general, certain lines, including fine papers, reporting the majority of the improvement. Prices remained firm and, in some instances, reports of increasing strength soon to come were more or less persistent.

Better demand and an increase in average size of orders came out of the fine paper offices. Bonds and ledgers made a fairly good weekly record. Books and covers continued to respond to increased activity in the advertising world while krafts, with a firm market, reported little or no increase in the demand that experienced some reacation on March 1. Ground woods offered no change. Demand was said to be only fair. Paper board slowed up slightly though a widening use of paper board products promised a more diversified market in the near future. All spring lines showed only a slight indication of the seasonal turn though the latter part of the month was expected to show a more determined pickup.

Waste papers remained only slightly changed over the previous week.

Container Report Shows Profit

Some indication of the improvement in the paper industry is noted in this week's report coming from the headquarters of the Container Corporation of America in Chicago. The corporation made a net profit of $140,921 in 1933, compared with a loss of $1,380,363 in 1932, according to the statement of president Walter Paepcke. Mr. Paepcke said that the profit realized on the purchase of the company's own bonds and debentures in anticipation of sinking fund requirements was included in income but credited direct to surplus. Net sales totaled $15,419,759 in 1933 compared with $11,457,966 in 1932. Current assets as of December 31, 1933, totaled $4,223,837, compared with $3,089,689 at the end of 1932. Current liabilities at the end of 1933 stood at $1,327,255 compared with $634,653 at the end of 1932. The statement said that the payroll increase of the Container Corporation of America due to the signing of the President's reemployment agreement was $1,800,000 on an annual basis.

Earnings for January and February, reported Mr. Paepcke, indicated the probability that the earnings for the first quarter of 1934 would be sufficient to cover the interest, preferred dividend and a good part of the common dividend requirements for the quarter. His statement added, however, that there should not be any expectation of early dividend disbursement.

Salesmen's Association Program

Presentation of the entire program of the Middle West Division of the Salesmen's Association of the Paper Industry devoted to the development of general information on general trade practices for the benefit of the Paper Industry Authority of the NRA, featured the Monday, March 5 meeting of the local association. Harold Knott, general chairman of the committee created for this purpose, presented the program and what it expected to accomplish and told how each group chairman would work in cooperation with the Paper Industry Authority to assist in the incorporation of basic general code of fair practices for the entire paper industry. The new program of the Salesmen's Association bids fair to be the outstanding piece of work on the 1934 calendar.

News of the Trade

Carl H. Trost, energetic young salesman with a good record with three well-known paper firms, is now working under the wing of J. H. Coy as an assistant salesman out of Flambeau Paper Company's Chicago offices in the Conway Building. Mr. Trost has, for the past few years, been associated with Jim Conley in the western offices of Frazer Company, Ltd. Prior to that he was associated with the Hammermill Paper Company at Erie and with the jobbing firm of Petriquin Paper Company, of Cleveland.

The Heco Envelope Company's latest circular, discussing the company, its plant, printing and service, adds this item about paper: "Heco carries approximately $750,000 in paper inventory, thereby assuring available papers in great variety. Heco has long established connections with some of the very best mills manufacturing envelope papers—many of these exclusive in territory. This insures uniformity in strength, weight, finish and color."

No. 2 in the Letterhead Parade, interesting direct mail series from the Swigart Paper Company on Redemption Bond, made its appearance in Chicago offices this week. Included in the folder, which is printed on Redemption, White, Substance 20, are testimonials to the characteristics of Redemption Bond from both a printer and his client—a rather effective method of merchandising the qualities of the product. Enclosed with the mailing is a post card offer from Redemption manufacturers, the Whiting-Plover Paper Company, for a free file holder to be utilized in collecting the remainder of the series in the "Letterhead Parade."

The Fonda Container Corporation of Utica is now represented in the western territory by E. B. Sheaffer, executive of the Missisquoi Corporation, of which Fonda is a subsidiary. Mr. Sheaffer's offices are at 111 West Washington street in "paper center." The Fonda line includes a complete presentation of paper cans.

G. L. Giddings, for five years western representative of the Byron-Weston Company, has returned to the mill and Harry Birt, formerly western representative, has returned to Chicago as the Byron-Weston representative, with offices in the *Chicago Daily News* Building. The transfer and other sales reorganization procedure is reported due to preparations for further intensive merchandising of the newly completed Byron-Weston line of rag content bond and ledgers.

R. M. Myers & Co. Howard Distributor

The Howard Paper Company, of Urbana, Ohio has recently taken on R. M. Myers and Company, Inc., of Rochester, N. Y., as a distributor of Howard Bond and its companion lines, also as a distributor for Maxwell Bond and Maxwell Offset, products manufactured by the allied mill of the Howard Paper mill, the Maxwell Paper Company, of Franklin, Ohio.

Some Observations Relative to the South for the Manufacture of Pulp and Paper

By Warren T. White[1]

The following letter from Warren T. White, general industrial agent of the Seaboard Air Line Railway, Norfolk, Va., to Robert P. Kernan, president of the Donnacona Paper Company, Donnacona, Que., was written under date of December 19, 1933. Its publication in the PAPER TRADE JOURNAL, as requested, was unfortunately delayed because of the great amount of matter it has been necessary to print regarding the codes in the various branches of the paper industry.

I have read with much interest the statement attributed to you in the PAPER TRADE JOURNAL of December 7 under the heading "Canadian Views on Southern Pine News Print"; and in view of your interest, I am taking the liberty of sending you herewith a brief report which we have recently compiled relative to the South for the manufacture of pulp and paper. I trust that you will find time to give the report careful reading.

Pulpwood Supply

With respect to pulpwood supply in the South, I am frank to say that I have not before heard of an instance where the quantity of wood fiber material in this territory has been brought into question. In this connection I quote the following from the PAPER TRADE JOURNAL of the date above mentioned:

"As for raw material, I understand that paper from white pine must be made from wood fifteen years old, otherwise there is too much resin in it. According to my information, they get about one cord an acre of regrowth in fifteen years. That means that to manufacture 1,000,000 or 1,500,000 tons of news print—which is about all that is manufactured in the United States at present—they would have to cut over a tremendous territory, 1,500,000 or 2,000,000 acres, which does not look very practicable to me."

I do not believe anyone contemplates making paper from "white pine" in the South, as there is very little white pine in this territory. White pine in the South is very limited in quantity, its growth being restricted to small areas in the mountainous sections. The vast majority of our pine and the kind from which paper has been made is "yellow pine" or what is commonly referred to as "southern pine," the principal species being long leaf pine, loblolly pine, Virginia pine, slash pine, etc. There are more than 100,000,000 acres of this second growth pine land in the South, capable of supplying far more than the pulp and paper requirements of the North American Continent. In this connection, I quote the following from a representative of the United States Forest Service:

Great Asset in Coniferous Wood

"In the southern pine belt, the United States is thought to possess the greatest single asset in the way of potential source of coniferous wood and lumber that exists anywhere on the face of the earth. Three feet of yearly height growth is not uncommon among the southern pines, that to compare with half as much for white pine in New England, and a foot and less for spruce as it grows in most northern territory. Sixty cords of rough wood at twenty-five years of age have been personally recorded."

[1] General industrial agent, Seaboard Air Line Railway, Norfolk, Va.

Good second-growth southern pine will produce from thirty to forty cords per acre in fifteen to twenty years. Under proper conservation methods, most authorities agree that southern pine can be counted on to produce approximately two cords per acre per year. From this it can be seen that a vast amount of pulpwood can be procured in a relatively short radius in the South. Dr. Charles H. Herty has made the statement based on careful calculations that a 100-ton pulp mill located in the center of a circular tract of slash pine worked on a twenty-year rotation basis would have an average haul of logs to the mill of three miles on a perpetual basis.

Enormous Quantities of Pulpwood Assured

There are many locations in the South where enormous quantities of pulpwood can be secured. As an illustration, take Fernandina, Fla., which is one of the outstanding locations on the South Atlantic Coast for a pulp and paper operation. Based on a careful study which we made of the pulpwood supply contiguous to Fernandina, it is estimated that within a radius of fifty miles there are 1,600,000 acres of pine timber capable of supplying approximately 1,000,000 cords of wood per annum from thinnings alone. This would more than take care of the pulpwood requirements of a 2,000-ton-per-day-capacity newsprint plant on a 365-days-per-year operation. When it is considered that a 500-ton-capacity mill is a very big operation, some idea can be gained as to the quantity of pulpwood available in this one community.

There is a 400-ton kraft mill at Panama City, Fla., which is operating on pine and securing without any trouble its pulpwood requirements in a relatively restricted area contiguous to the mill. There are other kraft mills in the South which are securing without any trouble their wood requirements in the area contiguous to the plants and at prices less than half the figure quoted on spruce. The same wood supply is available for newsprint and other grades of white paper.

Resin Negligible in Wood Under Twenty Years

As to the resin in southern pine, Dr. Herty has found that up to about twenty years the amount of resin in southern pine is negligible, in fact, actually less in quantity than in the case of spruce. Southern pine grows so rapidly that it will never be necessary to use wood more than fifteen or twenty years old; in fact most of the wood used by Dr. Herty in his experiments on newsprint was from trees seven to fifteen years old. As an indication of the growth which takes place in southern pines, I am sending you herewith a photograph of a cross-section of a ten-year-old loblolly pine cut near Savannah, Georgia. You will note that this tree is about eleven inches in diameter, even though it had not completed all of its tenth year's growth. This is not at all unusual for that locality.

The Matter of Power

As to the matter of power, I am not at all sure that power can be manufactured cheaper in Canada than in the South. In the case of some of the large hydro-electric power developments in Canada, power is extremely cheap;

but when it comes to manufacturing power, the cost of fuel and other factors enter into the picture. It would hardly be fair to draw a comparison on electric power costs except in the light of individual requirements and where specific localities are involved.

As to labor, it is conceded that the South would enjoy a material advantage. In our NRA Codes, recognition is given to this fact, as the minimum wage in the North for paper mill employees is 38 cents per hour and in the deep South, 30 cents per hour, or a differential of approximately 21 per cent.

Transportation and Labor Costs

Calculations based on existing differentials between the North and the South on pulpwood costs, transportation costs and labor costs show that a 500-ton unit would effect an annual saving in the South of approximately $1,400,000. Such a saving as this would amortize the cost of a mill in a very few years. In view of the vast amount of cheap pulpwood available in the South and the other fundamental advantages, it is hardly possible that capital will very long overlook this opportunity for profitable return. Our interest, of course, lies in furthering the development of the pulp and paper industry in the South along such sound business lines as circumstances will warrant.

If you are interested in receiving further details concerning opportunities for paper manufacturing in the South, we shall be very glad indeed to hear from you.

Yours very truly,

WARREN T. WHITE,
General Industrial Agent.

Indiana Fibre Products Wins Suit

[FROM OUR REGULAR CORRESPONDENT]

SOUTH BEND, Ind., March 12, 1934—A decision against the Chesapeake & Ohio Railway Company, which sought to recover for services which an allegedly low rate was paid by the Indiana Fibre Products Company, paper box makers of Marion, Ind., has been handed down here by Judge Thomas W. Slick in Federal court. The action was tried about two years ago and has been under advisement since that time.

The plaintiff charged that rates paid by the Marion firm for certain products it transported from Norfolk, Va., to Marion were insufficient, much of the argument in the trial centering about whether the material transported was "wood pulp" or "wood pulp board."

The decision made note of the fact that the products transported were shipped in from Finland and that their character thereby became fixed as imported articles of commerce and took the rate prescribed to such foreign articles, wherefore the defendant, he ruled, had paid the proper rate.

U. S. Chief Paper Source of Guatemala

The United States is the chief source of supply for paper imported into Guatemala, with Germany offering the keenest competition, according to American Vice-Consul Flourney at Guatemala. Business conditions in Guatemala were generally better at the end of 1933 than at the end of the previous year. Imports during the last six months were from 10 to 15 per cent greater than for the same period in 1932. Prospects for the sale of the coffee crop indicated that the volume would be about 10 per cent greater, with prices averaging 20 to 30 per cent higher than in the preceding year.

Container Makes Good Report

The annual report of Container Corporation of America for 1933 shows net profit of $140,921 against net loss of $1,380,363 for 1932 and net loss of $908,436 in 1931. The report contains statement of Walter P. Paepcke, president, that the earnings for January and February, 1934, indicate that it is probable that first quarter profits will be sufficient "to cover preferred dividends and a good part of common dividend requirements."

However, the Container president adds that stockholders should not expect early dividend payments. "Before serious consideration could be given to that subject," Mr. Paepcke declares, "earned surplus will have to be rebuilt, some needed capital expenditures put off during the depression should be considered, and arrears of preferred dividends which amount to $330,813 must first be paid."

While the immediate outlook is reasonably favorable, in Mr. Paepcke's opinion, "many uncertainties in the general business situation still exist."

The 1933 report discloses a gain of $441,576 in working capital, a reduction of $427,000 in funded obligations, acquisition during the year of $683,900 par value of bonds, debentures and preferred stock at a cost of $295,537, sales expansion of 35 per cent in dollars and 14 per cent in units over 1932 and payroll increase due to signing of the President's re-employment agreement of $1,800,000 on an annual basis.

Mr. Paepcke informs stockholders that during the last year, the paperboard industry adopted saner sales policies, his comment on this subject being: "The deplorable habit of trying to obtain volume at almost any price gradually changed into a definite policy to secure only profitable business; for a satisfactory volume had already developed due to better general business conditions. Even with substantial increases, selling prices had only reached 87 per cent of 1926 and 79 per cent of 1922."

Pointing out that the small profit of 1933 represented an improvement of over $1,500,000 as against 1932, the Container head added: "It is perhaps worthy of mention that net results were also about $1,000,000 better than 1931 in spite of slightly lower sales volume. The improvement is largely due to substantially lower costs, reduced selling and administrative expenses, and to better selling prices in the second half of 1933."

Balance sheet showed current assets of $4,223,837 including cash on hand of $439,616. Current liabilities at the year-end amounted to $1,327,225. Inventories were expanded from $1,257,032 at the end of 1932 to $2,622,308 a year later.

How the Proposed Tariff Will Affect Board

Warren B. Bullock, manager of the Import Committee of the American Paper Industry, states that "the bill introduced in Congress to authorize the President to make reciprocal tariff treaties specifically repeals the flexible tariff provision of the existing tariff act by which changes may be made after investigation by the United States Tariff Commission. It also repeals the so-called countervailing provisions of the Act, one such being the providing for a duty on unprocessed paper board equivalent to that imposed on United States board by foreign countries, when imports are entered from such countries, paperboard is dutiable at 10 per cent, but under the countervailing provision certain boards imported from Canada, are subject to the Canadian rate of 35 per cent, plus excise and sales taxes imposed in Canada."

Permanent Paper in Scholarly Publishing

By Samuel T. Farquhar[1]

One of the major problems which confront librarians and the publishers of scholarly works is that of the deterioration of the paper upon which the publications are printed.

At the University of California Press we believe we have solved this problem by printing a special edition of 25 copies of our scientific works on a permanent, 100 per cent rag paper, and distributing these copies to a selected list of depositories throughout the world.

Much of the material published by this Press is in serial form. It is extremely technical and, we think, important within its field. Some thirty series are more or less regularly issued, relating to many fields of human knowledge from Agricultural Sciences and Anatomy to Semitic Philology and Zoology. How much of this material possesses lasting value no one can say, but certainly some part of it will be of signal importance to future scholars.

A Duty to Posterity

Publishers have a duty to posterity; particularly those who, like ourselves, are engaged in preserving the results of original research. Consciousness of this ought to compel us to print our publications on material that will last. But much intervenes between duty and practice, and, as a result, important discoveries are being published so shoddily that within the century their record will be lost.

Late in 1933 the University of California Press, recognizing its obligation to future scholars, initiated the new method of publishing which has been described. Long study and careful preparation were necessary before the project could be successful. Paper technicians, chemists, and other experts were consulted in an endeavor to prepare specifications for a paper which would be as permanent as possible without being excessive in cost. After much work on this problem, we found that in all probability our wisest course would be to adopt the specifications used by the United States Government Printing Office in the purchase of paper for the Federal Government's permanent printed records. These specifications are a matter of public record, and the paper mills are familiar with them; therefore no difficulty was encountered in having a shipment made up for our use. The comparatively heavy cost of this paper made its use impossible for entire editions, but its use in twenty-five copies made little difference. The bulk of the edition is printed on a paper of good quality but much less costly.

Selecting a Group of Depositories

Once the technical problem of production had been solved, it was necessary to select a group of depositories for receiving the special copies. Consultation with scholars and librarians resulted in the compilation of a list of institutions throughout the world. In making the list, consideration was given to geographical distribution, to the scholarly nature of the libraries, and to their willingness to bind and house the material which they would receive. Nothing was asked in return except their custodianship. If exchanges were forthcoming, so much the better, but they were not requested. (Should any reader wish a list of these libraries, it will be gladly furnished to him if he will write direct to the author of this note.)

Plan Commended

Letters were sent by the Division of Serials and Exchanges of the University of California Library to the designated depositories, and without exception this plan received commendation. The librarian of one of the largest libraries in the eastern part of the United States wrote as follows:

"Your decision to print your serial publications on rag paper will, I hope, be imitated by other institutions publishing important serials and books. I know I need not tell you that those which have been printed on wood-pulp paper will have disappeared or become unusable within the next fifty years. So we applaud your decision and thank you most heartily for including us among the institutions to receive these rag paper editions."

This brief note of a project which should be of interest to all librarians, must necessarily omit many details which might be of interest. But room is lacking for a detailed explanation.

The Problem Solved

Present financial conditions are bringing to the fore more than ever the problem of reducing the cost of publication without reducing the quality of the materials used. Here at the University of California Press we think we have solved the problem. It is unfortunate that we are not endowed with a Methuselah's term of life so that we may know whether our judgment is sound, but we are building for posterity and hope that the record will be intact a thousand years from now.

[1]Manager, The University of California Press

Cellulose Sheeting for Preserving Records

The Bureau of Standards Washington, D. C., has found that the acetate type of transparent cellulose sheeting offers considerable promise as a protective covering for preserving valuable written or printed records. The high degree of transparency, tensile strength and smoothness of cellulose sheetings are attractive features for this use. The cellulose acetate sheeting appears to be particularly well adapted since it is apparently very stable if made from high grade cellulose, can be secured in sheets only one-thousandth of an inch thick, and is thermoplastic, that is, can be applied by combined heat and pressure. The paper bearing the record is placed between two slightly larger sheets of the cellulose sheeting, and the combination is pressed between heated platens in a hydraulic press. This forms a smooth, firmly-bound unit, with edges sealed by the overlapping edges of the cellulose sheeting. The last feature is important because it makes the combination quite impervious to air.

Holyoke Concerned About Floods

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., March 13, 1934—Grave concern is being felt by Holyoke manufacturers over the possibility of a heavy flood when milder weather shall have released the snow in woods and hills from the headwaters of the Connecticut River down to this city. Recent thaws followed by a freeze have locked up in three feet of snow such a quantity of water that a warm rain or few days of warm weather will start a flood that may be a record breaker. The ground itself being frozen more deeply than usual assures that the runoff will be large and that little will be soaked into the ground when warmer days come.

Anticipating trouble from the exceptional depth of ice above the big dam the Holyoke Water Power Company has had cut a big "V" about the dam and thus guards against undue pressure when floods start to move.

December Box Board Production

Monthly statistics of Box Board for 94 identical manufacturers compiled from data furnished by the National Paperboard Association and the American Paper and Pulp Association from reports of members, and by manufacturers reporting direct to the Bureau of the Census, are presented in the following table.

Rated (24-hour) capacity data of box-board machines in inch-hours in this report are based on last dryer width whereas those shown in reports published for earlier years were based on maximum trim width. Corresponding data on trim width basis for the months of 1933, appear in Note 1. The capacity data vary according to the normal number of working days in each month.

Year and Month	Operation (Inch hours)[1] (Based on last dryer width)			Production (Tons)			New Orders (Tons)	Unfilled Orders (Tons)
	Rated Capacity	Operated	Per Cent. of Capacity	Rated Capacity	Output	Per Cent. of Capacity		
1933								
January	14,210,696	7,679,402	54.0	392,770	205,326	52.3	207,214	36,065
February	12,560,626	7,572,068	60.3	350,350	205,871	58.8	207,705	38,505
March	15,472,220	8,758,969	56.6	432,799	237,536	54.9	250,480	53,542
April	13,761,134	8,185,670	59.5	384,846	223,845	58.2	236,022	70,099
May	14,888,820	10,418,818	70.0	417,798	287,032	68.7	294,460	76,719
June	13,695,506	10,432,158	76.2	384,283	292,967	76.2	349,650	144,307
July	12,925,903	10,230,022	79.1	358,378	283,272	79.0	268,546	128,638
August	14,403,798	11,228,582	78.0	404,838	312,747	77.3	307,321	118,298
September	12,969,506	9,265,645	71.4	357,093	252,452	70.7	238,771	105,423
October	13,553,121	8,161,859	60.2	380,201	228,416	60.1	185,026	62,177
November	13,711,706	7,523,076	54.9	382,320	206,933	54.1	199,059	55,080
December	13,441,090	6,530,001	48.6	374,054	176,337	47.1	169,116	48,920
Total (Year)	165,594,126	105,986,270	64.0	4,619,730	2,912,734	63.0	2,913,370	.....

Year and Month	Shipments of Box Board[2]	Stocks of Box Board End of Board[2]	Consumption of Waste Paper[2]			Stocks of Waste Paper End of Month[2]		
			Capacity	Consumed	Per Cent. of Capacity	Total	At Plants	In Transit and Unshipped Purchases
	Tons					Tons		
1933								
January	149,743	80,925	232,576	118,870	51.1	139,761	119,382	20,379
February	158,993	77,778	231,128	132,380	57.3	135,118	107,427	27,691
March	181,796	77,902	260,802	148,318	56.9	124,176	101,537	22,639
April	174,914	78,827	291,600	168,569	57.8	139,691	112,230	27,461
May	221,612	76,953	324,841	213,697	65.8	123,832	92,201	31,631
June	260,101	66,932	252,600	203,804	80.7	107,268	81,531	25,737
July	246,994	66,371	259,543	204,640	78.8	101,343	77,527	23,816
August	252,036	63,965	301,718	226,455	75.1	104,695	82,838	21,857
September	226,336	65,110	275,900	187,837	68.1	125,716	105,471	20,245
October	191,989	63,315	274,532	161,595	58.9	135,183	119,809	15,374
November	175,148	*70,263	271,572	145,307	53.5	167,430	137,287	30,143
December	152,712	70,288	268,371	121,703	45.3	171,222	150,645	20,577
Total (Year)	2,392,374	.....	3,245,183	2,033,175	62.7	.....	.....	.....

[1] The corresponding operation data based on maximum trim width are:

	Rated Capacity (Inch Hours)	Operated (Inch Hours)	Per Cent.		Rated Capacity (Inch Hours)	Operated (Inch Hours)	Per Cent.
January	13,219,071	7,142,311	54.0	August	13,370,790	10,426,287	78.0
February	11,687,719	7,046,279	60.3	September	12,043,400	8,609,987	71.5
March	14,387,976	8,149,302	56.7	October	12,582,727	7,585,138	60.3
April	12,802,286	7,619,763	59.5	November	12,723,937	6,989,037	54.9
May	13,859,464	9,792,446	70.7	December	12,469,718	6,065,574	48.6
June	12,753,185	9,715,011	76.2				
July	12,038,260	9,528,048	79.1	Total (Year)	153,938,533	98,669,183	64.1

[2] As reported by 78 manufacturers that showed production of box board in tons for the respective months of 1933, as follows:
January, 150,784; February, 156,002; March, 182,361; April, 175,785; May, 220,018; June, 250,014; July, 246,970; August, 251,634; September, 227,001; October, 190,194; November, 184,296; and December, 152,737.

[3] Revised to include data reported by 70 manufacturers.

*Revised.

Gair Concerns Incorporate

Robert Gair Company, Inc., manufacturers of paperboard and paperboard products, announced last week through E. Victor Donaldson, president, that the six plants now operating as divisions have been incorporated as wholly owned subsidiaries under the following names, effective March 1, 1934:

Divisions	*New Corporate Names*
Piermont	Gair Cartons, Inc.
Thames River	Gair Thames Container, Inc.
Connecticut Corrugated (Shelton)	Gair Thames Container, Inc.
Warner & Childs (Medford)	Gair Boston Containers, Inc.
Haverhill	Haverhill Boxboards, Inc.
Tonawanda	Tonawanda Boxboards, Inc.

Outlook Brighter for Pulp

The outlook is also brighter in regard to pulp, and in this connection it may be mentioned that the Port Royal Pulp and Paper Company at Saint John, N. B., is making a bid for the European market with a sample of 100 tons of high grade bleached sulphite pulp shipped to Belgium. The mill received the order for the trial shipment from its agent in Belgium following the display by him of samples previously sent. The shipment which consists of ten separate lots of ten tons each, consigned to different mills in Belgium, represents the first European shipment of pulp from the mill. It is the hope of the Port Royal mill management that the opportunity has now come to recover at least a portion of the large export trade which Canada had enjoyed in Europe in this commodity prior to the present tangle in exchange.

Code Compliance Explained to Paper Merchants

BOSTON, Mass., March 12, 1934—Frank B. Cummings, executive secretary of Committee Region No. 1, including New England, Central and Northern New York, sent the following on March 7 to members of the paper distributing trade in that Region:

"This letter contains information to guide you in legally complying with the Code of Fair Competition for the Paper Distributing Trade, Government Bulletin No. 176, signed and approved by the President of the United States on December 23, 1933.

"While compliance with the Code is mandatory upon all members of the trade, it is desirable that members of the trade engaged in the wholesale distribution of paper and paper products, in whole or in part, sign an assent, agreeing to comply with the provisions of the Code.

"Section 4 of Article IV provides that—Members of the trade shall be entitled to participate in and share the benefits of the activities of the Code Authority by assenting to and complying with the requirements of this Code and sustaining their reasonable share of the proper expenses of its administration."

"If you are principally engaged in the wholesale paper distributing trade, it is mandatory that you display, in conspicuous places accessible to all employees, Artciles V, VI and VII of the Code referring respectively to wrking hours, wages and general labor provisions.

"If you are engaged principally or even in part in the wholesale distribution of paper or paper products as defined in Article II of the Code, you are subject to the provisions of the Code.

"Your attention is directed particularly to the following items:

"Section 4 of Article VIII of the Code forbids the sale of merchandise (except in the case of bona fide contracts in effect prior to December 23, 1933) at less than replacement cost.

"With respect to purchases made by members of the trade, under contracts for future delivery, the Code Authority defines "replacement cost" as not the cost to the buyer under such contracts but the open market cost at the time he sells or offers for sale any of such products.

"Secion 5 of Article VIII lists exceptions to the above rule under which you may not sell below replacement cost. With respect to goods as described in sub-sections (a), (b) and (e) of Section 5 of Article VIII, it will be considered that you have complied with the requirements of this section, if you file on or before ten days from date of this letter, with the Chairman of the Trading Area Sub-Committee, a complete list with a reasonably detailed description stating quantity, kind, weight, color and size of each item together with the price at which the item is offered for sale and such description as is necessary to indicate whether the goods are sold below replacement cost for the purposes of closing out discontinued stock (sub-section (a), because of damage or deterioration (sub-section (b) or whether the merchandise is offered for distress sale under sub-section (e).

"Members of the trade will be deemed to have complied with sub-section (c) of Section 5 of Article VIII with respect to sales below replacement cost to the other members of the trade, if, within ten days from date of this letter, the member of the trade wishing to avail himself of the privilege extended under sub-section (c) of Section 5 of Article VIII shall have filed with the Chairman of the Sub-Committee for the Trading Area a list of members to whom he proposes to sell under the provisions of sub-section (c) together with a statement of the discount or discounts he proposes to allow.

"The billing under the above exceptions (a), (b), (c), (e), and sub-section (d) (job lots or seconds), also billing under contracts, must show on the invoice the reason for the sale being made at less than the usual price.

"The Code Authority, Regional Committee and Sub-Committees reserve the right to disapprove, on its own initiative or on complaint of any members of the trade, any proposal under these sub-sections that is deemed to be prejudicial to the purposes of the Industrial Recovery Act, and/or Approved Code No. 176.

"It is the duty of each member of the trade to inform himself of the provisions of the Code of Fair Competition for the Paper Distributing Trade. A copy of the Code may be obtained from the Superintendent of Documents, Washington, D. C., or from the following district offices of the Department of Commerce located in Region No. 1: 1801 Custom House, Boston, Mass.; Chamber of Commerce Building, Buffalo, N. Y., on payment of 5 cents in cash."

March 3, 1934

Sub-Committees of Region No. 1

(A) MAINE AND NEW HAMPSHIRE TRADING AREA

Harold R. Robinson, Chairman, C. H. Robinson Company, Portland, Maine .....(D)
Frank Scamman, Vice-Chairman, C. M. Rice Paper Company, Portland, Maine .....(W)
Harry B. Maybury, C. M. Rice Paper Company, Portland, Maine.....(F)
Edgar M. Berry, Berry Paper Company, Lewiston, Maine.....(W)
Samuel P. White, Brown & White Company, Bangor, Maine.....(D)
Carl R. Crosby, C. H. Robinson Company, Manchester, N. H.....(F)
Clinton D. Merrill, Milliken-Tomlinson Company, Portland, Maine. (Whol.Groc.)
A. M. Hopkins, Arnold-Roberts Company, Augusta, Maine.....(F)

(B) VERMONT TRADING AREA

P. E. McAuliffe, Chairman, McAuliffe Paper Company, Burlington.....(W)
M. S. Sawyer, Vice-Chairman, H. A. Sawyer & Company, Rutland.....(D)
J. O. Kimball, White River Paper Company, White River Junction.....(D)
Frank A. Lowe, Montpelier Grocery Company, Montpelier.....(Whol. Groc.)

(C) EASTERN MASSACHUSETTS TRADING AREA
(East of but not including Palmer)

Matthew O. Byrne, Chairman, Whitney Brothers, Inc., Boston.....(W)
Wm. N. Stetson, Jr., Vice-Chairman, Storrs & Bement Company, Boston..(F)
Graham Blandy, Chas. A. Estey Paper Company, Worcester.....(W)
Morris Goldsmith, Worcester Woodenware & Paper Company, Worcester..(W)
Edmund G. Sullivan, L. B. Philbrick Company, Salem.....(W)
Harry Flemings, F. J. Flemings Est., Lowell.....(W)
Samuel Toabe, H. Berger Paper Company, Lawrence.....(W)
Goddard Kennedy, Kennedy & Kirwin, New Bedford.....(W)
George Bliss, R. A. Wilcox Company, Fall River.....(W)
F. Bendel Tracy, Fort Hill Paper Company, Boston.....(W)
Edw. Eaton, A. M. Eaton Paper Company, Boston.....(W)
S. L. Ginsburg, Ginsburg Brothers, Inc., Somerville.....(W)
A. V. Howland, Tileston & Hollingsworth Co., Boston.....(F)
Royden Loring, Arnold-Roberts Company, Boston.....(F)
Chas. S. Proctor, Proctor Paper Company, Boston.....(F)
Walter M. Pratt, Pratt Paper Company, Boston.....(F)
Frank H. Merrill, Andrews Paper Company, Boston.....(F)

(D) WESTERN MASSACHUSETTS TRADING AREA
(Palmer and points West)

Chas. I. Beckwith, Chairman, The Carter Paper Company, Springfield....(W)
John R. Whitney, Vice-Chairman, Whitney-Anderson Paper Company, Springfield .....(F)
Barnett Frank, Frank Brothers Paper Company, Sprignfield.....(W)
Wm. R. Thacker, Thacker-Craig Paper Company, Springfield.....(D)
H. W. Redfield, Redfield-Norcross Company, North Adams.....(W)
Charles Charnella, Paper House of New England, Springfield.....(F)
Walter E. Perry, Plymouth Paper Company, Holyoke.....(F)
Martin J. Judge, Martin J. Judge Company, Holyoke.....(W)
W. S. Stedman, Stedman Paper Company, Holyoke.....(W)

(E) RHODE ISLAND TRADING AREA

LeRoy M. Gardner, Chairman, R. L. Greene Paper Company, Providence..(D)
James Campbel, Vice-Chairman, Industrial Paper & Cordage Company, Pawtucket .....(W)
James Gardiner, Paddock Paper Company, Providence.....(F)
John Halkyard, Providence Paper Company, Providence.....(F)
Harry Lyon, H. Lyon & Company, Providence.....(W)

(F) CONNECTICUT TRADING AREA

Sterling R. Chatfield, Chairman, Minotte E. Chatfield Company, New Haven .....(W)
A. J. Stevens, Vice-Chairman, Storrs & Bement Company, New Haven...(F)
L. D. Lott, Lott-Morlin Company, Stamford.....(D)
S. S. Rhodes, Standard Paper Company, Waterbury.....(W)
W. H. Rourke, Rourke-Eno Paper Company, Inc., Hartford.....(F)
Meyer Schwarz, Nathan Schwarz & Son, Bridgeport.....(Misc.)
W. E. Wieler, Garvey-Northrop & Wieler Company, New Haven.....(Misc.)
A. C. Biza, Henry Lindemeyr & Sons, Hartford.....(F)
Leonard Brown, Lott-Merlin Company, Bridgeport.....(F)
Leon Silver, 145 Temple Street, Hartford.....

(G) ALBANY TRADING AREA

Edgar L. Potter, Chairman, Potter-Taylor Paper Corp., Albany.....(F)
Robt. L. Lawrence, Vice-Chairman, G. F. Blackmer & Sons, Saratoga Springs.....(W)
Gerald Broon, Streibert Paper Company, Albany.....(W)
Sidney T. Jones, Hudson Valley Paper Company, Albany.....(D)
Wm. H. Smith, W. H. Smith Paper Corp., Albany.....(F)

(H) UTICA TRADING AREA

John McCarthy, Chairman, J. & F. B. Garrett Company, Syracuse.....(F)
Leslie Rogers, Vice-Chairman, Bowes, Brothers, Utica.....(W)
P. D. Turroll, Stephens & Company, Binghamton.....(D)
Harry H. Horwitz, Horwitz Brothers, Elmira.....(D)

(J) ROCHESTER TRADING AREA

Roger H. Wellington, Chairman, The Alling & Cory Company, Rochester..(W)
B. E. Reeves, Vice-Chairman, The Alling & Cory Company, Rochester....(F)
Geo. Boggs, Hubbs & Hastings Paper Company, Rochester.....(W)
Fred Thompson, Cramer-Force Company, Rochester.....(W)
David F. Teetor, Paper Service, Inc., Rochester.....(F)
Hyman Kolko, Kolko Paper Company, Rochester.....(W)

(K) BUFFALO TRADING AREA

Oliver G. Bauman, Chairman, R. H. Thompson Company, Buffalo.....(F)
L. L. Hanlon, Vice-Chairman, The Alling & Cory Company, Buffalo.....(W)
Harry Severance, Hubbs & Howe Company, Buffalo.....(W)
Max Chudy, Chudy Brothers, Buffalo.....(W)
H. L. Kratz, The Alling & Cory Company, Buffalo.....(F)
Harold Cowan, Seaman Paper Company, Buffalo.....(F)
Wm. Grazolle, Holland Paper Company, Buffalo.....(F)

F—Fine Paper. W—Wrapping Paper. D—Dual Paper.

Code Authorities Appointed

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 14—National Recovery Administrator Hugh S. Johnson has announced the appointment of the following Code Authority for the Waterproof Paper Industry:

Fred P. Wood, Adrian, Mich.; F. E. Rothermel, Newark, N. J.; H. E. Angier, Framingham, Mass.; E. W. Rowe, Rockland, Cincinnati, Ohio; J. D. Young, Menasha, Wis.

They are to serve one year, or until a successor is elected.

The code for this industry provides that the members of the executive committee of the Waterproof Paper Manufacturers Association together with such other persons as the Administrator may designate shall constitute the Code Authority. The foregoing compose the Association's executive committee.

Also Administrator Johnson has recognized as the Code Authority of the Gumming Industry the following, who were elected by the Gumming Industries Association, as prescribed by the code:

Irving McHenry, Mid-States Gummed Paper Company, Chicago; V. E. Nunez, Nashua Gummed and Coated Paper Company, Nashua, N. H.; P. H. Bridge, Brown-Bridge Mills, Inc., Troy, Ohio; E. Perlman, Union Gummed Products Company, Brooklyn, N. Y.; E. F. Herrlinger, Gummed Products Company, Cincinnati, Ohio; W. K. Gerbrick, Central Paper Company, Menasha, Wis.; R. A. Maish, Dennison Manufacturing Company, Framingham, Mass.

David Raymond Edgar Dead

David Raymond Edgar, president of the Edgar Brothers Company and the Edgar Plastic Kaolin Company, both of Metuchen, N. J., died suddenly of a heart attack at his home on Plainfield Road there on March 1 at the age of 51 years. He had been ill for two days.

Mr. Edgar served as a trustee of the New Brunswick Theological Seminary until ill health caused him to resign. He was active in the First Reformed Church. He was graduated from Rutgers University in 1903 and was a member of Beta Theta Pi fraternity.

He is survived by a widow, the former Olive Dixon; two sons, Donald Dixon Edgar, vice consul at Havana, and Richard Ross Edgar of Metuchen, and a brother Harold Edgar of Metuchen.

Code Exemption Requests Heard

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1934—Deputy Administrator W. W. Pickard today held a public hearing at which requests for exemptions from certain provisions of the Envelope Code and extensions in the Southern wage differential in the Folding Paper Box, Set Up Paper Box and Corrugated and Solid Fibre Shipping Container Codes, were heard.

Mr. Pickard announced that the Field Ernst Envelope Company, the Bowers Envelope and Lithograph Company and the Capitol Envelope Company of Los Angeles all requested exemption from the machine limitation hours of the Envelope Code until October 1, of this year.

I. L. Rhutan, representing the Union Envelope Company, of Richmond, Va., asked permission to operate from March 1 to August 1 at 30 cents per hour and on a basis of a 44 hour week of 8 hour days and to employ an extra shift on five 7-hour days per week in order to fulfil Government contracts entered into before the approval of the code.

Irwin I. Feldman, representing several groups of box manufacturers in Baltimore, presented an extended brief in which he urged that Baltimore and the State of Maryland be placed in the Southern Zone in the various paper box codes on the grounds that the living costs, living conditions and the general competitive situation is comparable to Richmond, Va., already in the southern zone, which furnishes their chief competition. Mr. Feldman pointed out that the cost of living was lower in Baltimore than in most other comparable cities, but that the standards of living were not.

The Deputy Administrator also heard an application from the Mengel Company, of Louisville, Ky., asking that Kentucky be placed in the Southern Zone.

At the close of the hearing, Mr. Pickard announced that he had received requests for exemptions from the homework ban of the Set Up Paper Box Code, from the Standard Paper Box Manufacturing Company, J. F. Kackline, L. G. Werner Sons Company, all of Reading, Pa., and the United Paper Box Manufacturing Company, of Cleveland, Ohio.

Named Chairman of Industrial Advisory Board

Henry S. Dennison, president of the Dennison Manufacturing Company, Framingham, Mass., assumed office March 1 as chairman of the Industrial Advisory Board of the National Recovery Administration, and Morris E. Leeds, president of Leeds & Northrup Company, Philadelphia, took over the newly created vice-chairmanship.

Mr. Dennison succeeds Pierre S. duPont, whose term expired February 28 under the rotative system followed by the Industrial Advisory Board. He has been president of the Dennison Manufacturing Company, since 1917. During the World War he was assistant director of the Central Bureau of Planning and Statistics, Washington; he has also been a director of service relations, U. S. Postoffice Department. He is a member of the Boston (Mass.) Chamber of Commerce, the Taylor Society, and the International Management Institute.

Mr. Leeds has been a manufacturer of precision and scientific apparatus since 1890. He has invented electric and temperature measuring instruments. For many years he has been active in behalf of stabilized employment and prevention of unemployment; he is a member of the advisory committee on industrial relations of the National Industrial Conference Board. A Quaker, he is president of the corporation and board of managers of Haverford College.

Approves Additional Paper Authorities

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 7, 1934—General Hugh S. Johnson has announced the approval of the following members of code authorities:

CORRUGATED AND SOLID FIBRE SHIPPING CONTAINER INDUSTRY: James B. Fenton, Buffalo, N. Y.; J. L. Barchard, Milwaukee, Wis.; C. W. Gaylord, St. Louis, Mo.; Irving Hill, Lawrence, Kansas; H. C. Krannert, Indianapolis, Ind.; T. C. Mitchell, Philadelphia, Pa.; L. Rosenfeld, Long Island City, N. Y. These members will serve one year or until successors are chosen.

FOOD DISH AND PULP AND PAPER PLATE INDUSTRY: George A. Vradenburg, Toledo, Ohio; E. F. Ahearn, New York, N. Y.; Ned G. Begle, New York, N. Y.; Robert E. Rutledge, Kalamazoo, Mich.; W. H. Arthur, Indianapolis, Ind.; Mahlon Brookings Wallace, Jr., St. Louis, Mo. These members will serve until successors are selected.

PAPER BOX MANUFACTURING INDUSTRY: William P. Datz, Jr., 537 N. Third Street, Philadelphia, Pa.; D. H. Dillard, Lynchburg, Va.; Walter Trum, 505 Court Street, Brooklyn, N. Y.; R. H. Ritchie, 8855 Baltimore Avenue, Chicago, Ill.; J. A. Garvey, Framingham, Mass. These members will serve until July 14, 1934, or until successors are appointed.

National Recovery Administrator Hugh S. Johnson on Monday approved the fiber wallboard code. This code becomes effective March 17. It establishes a 40-hour work week, with overtime at one and one-half the regular rate of pay during six weeks in each six months, and fixes a minimum wage for common labor of 40 cents an hour. The industry's payroll was increased 18 per cent under the NRA and will be further increased under the permanent code. The work week of factory employees has been 51 hours, hence the code will substantially increase employment.

NRA has also announced that General Johnson has approved the method of selection and the personnel of the following code authorities:

GROCERY BAG DIVISION OF THE PAPER BAG MANUFACTURING INDUSTRY:—J. N. Harvey, vice-president, Advance Paper Bag Company, 38 Newbury street, Boston, Mass., Chairman; Alfred Bleyer, Alfred Bleyer & Co., 47-05 Metropolitan avenue, Brooklyn, New York; R. J. Cullen, president, Continental Paper and Bag Corporation, 220 East 42nd street, New York; F. M. Dickinson, vice-president, E-Z-Opener Bag Company, Tuscaloosa, Ala.; A. A. McInvain, president, Columbia Paper Bag Company, 921 Fort avenue, Baltimore, Md.; R. A. McDonald, vice-president, Crown Willamette Paper Company, 343 Sansome street, San Francisco, Cal.; E. E. Brown, treasurer and general manager, Lawrence Bag Company, Middletown, Ohio; Alexander Calder, president, Union Bag and Paper Corporation, Woolworth Building, New York, and E. B. Livy, vice-president, Wortendyke Manufacturing Company, Richmond, Va.

SHOPPING BAG DIVISION OF THE PAPER BAG MANUFACTURING INDUSTRY:—A. B. Collins, Chairman, James River Paper Company, Richmond, Va.; J. M. Hartmann, Continental Paper and Bag Corporation, 220 East 42nd street, New York; G. B. Eustis, Union Bag and Paper Corporation, Woolworth Building, New York; H. O. Nichols, Crown Willamette Paper Company, 122 East 42nd street, New York; M. Goldman, Atlas Shopping Bag Corporation, Water and Morris streets, Philadelphia, Pa.; M. Katz, KarySafe Paper Bag Company, 624 East 13th street, New York, and C. G. Eaton, A. M. Eaton Paper Company, 839 Albany street, Boston, Mass.

MILLINERY AND NOTION BAG DIVISION OF THE PAPER BAG MANUFACTURING INDUSTRY:—T. E. Jewell, Chairman, Waltham Bag and Paper Company, Waltham, Mass.; J. M. Hartmann, Continental Paper and Bag Corporation, 220 East 42nd street, New York; H. O. Nichols, Crown Willamette Paper Company, 122 East 42nd street, New York; J. Schorsch, Schorsch & Co., 500 East 133rd street, New York; H. S. Daniels, Union Bag and Paper Corporation, Woolworth Building, New York; E. B. Livy, Wortendyke Manufacturing Company, Richmond, Va., and G. A. Weisberger, Equitable Paper Bag Company, 314 Scholes street, Brooklyn, N. Y.

WHOLLY OR SEMI-HAND MADE BAG DIVISION OF THE PAPER BAG MANUFACTURING INDUSTRY:—H. L. Abramson, Chairman, vice-president, Central States Paper and Bag Company, 2600 N. Broadway, St. Louis, Mo.; P. G. Hunker, treasurer, Kennedy Car Liner and Bag Company, Shelbyville, Ind.; Joseph Weil, president, Cromwell Paper Company, 4801 S. Whipple street, Chicago; W. I. Spaugh, Paper and Paper Twine Company, High Point, N. C., and E. A. Sebastian, Jr., secretary, Orchard Paper Company, 3914 N. Union boulevard, St. Louis, Mo.

BANANA AND DRY CLEANER OR GARMENT DELIVERY BAG DIVISION OF THE PAPER BAG MANUFACTURING INDUSTRY:—W. E. Moser, Chairman, president Moser Bag and Paper Company, 2187 Ashland road, Cleveland, Ohio; A. J. Rassenfess, Lincoln Bag Company, 1529 Armitage avenue, Chicago; E. Wesselmann, Kennedy Car Liner and Bag Company, Shelbyville, Ind.; J. M. Hartmann, Continental Paper and Bag Corporation, 220 East 42nd street, New York, and G. B. Eustis, Union Bag and Paper Corporation, Woolworth Building, New York.

MOTH PROOF PAPER PRODUCTS DIVISION OF THE PAPER BAG MANUFACTURERS INDUSTRY:—E. Casey, Chairman, The White Tar Company, Inc., of N. J., Belleville Turnpike, Kearny, N. J.; W. Sinsheimer, Clopay Corporation, 1230 York street, Cincinnati, Ohio; A. Stone, Roseth Corporation, 200 Tillary street, Brooklyn, N. Y.; A. J. Rassenfess, Lincoln Bag Company, 1529 Armitage avenue, Chicago, and P. G. Hunker, Kennedy Car Liner and Bag Company, Shelbyville, Ind.

PAPER DISK MILK BOTTLE CAP INDUSTRY:—Joseph A. Burkart, president, American Dairy Supply Company, 430 Delaware avenue, S. W., Washington, D. C.; George E. Leonard, vice-president, National Manufacturing Company, 2800 Mercier street, Kansas City, Mo.; E. W. Skinner, president, Sealright Company, Inc., Fulton, N. Y.; J. R. Morris, president, Toledo Bottle Cap Company, 1345 Miami street, Toledo, Ohio, and R. W. Blodgett, president, Midwest Bottle Cap Company, Belvidere, Ill.

Gen. Johnson Signs More Paper Codes

[FROM OUR REGULAR CORRESPONDENT]

WATERPROOF PAPER INDUSTRY: A 40-hour week is established for factory workers with a weekly tolerance of eight hours to be paid for at time and one-third overtime. Office employees are limited to an average of 40 hours per week over an eight-week period. Exceptions for some classes of workers range from 48 to 56 hours per week. The minimum wage rate for male employees is 40 cents per hour in the North and 35 cents in the South and for female employees 35 cents in the North and 30 cents in the South. Office workers are to be paid a minimum of $16 per week in the North and $14 in the South. An open price selling plan is provided and selling below cost, except to meet competition is prohibited.

General Johnson, in his letter informing the President of approval, estimates about 17 per cent increase in payrolls as a result of the code's minimum wages. The industry

employed 650 persons in 1929 and in July, 1933, employed about 450 in a total of 28 plants. The effect of the code will be to employ about 100 additional.

FLUTED CUT, PAN LINER AND LACE PAPER INDUSTRY: This code provides a standard 40-hour week for factory workers, with a weekly tolerance of eight hours to be paid for as overtime. Office employees are limited to an average of 40 hours per week over an eight week period. The usual exceptions are made in regard to non-productive employees.

The minimum wage rate for hourly paid employees is 35 cents per hour for males, and 30 cents per hour for females. Office employees will be paid a minimum of $15 per week.

Total employment in the industry, in the second quarter of 1933, approximated 737 persons. It is estimated that operation of the code will give employment to some 140 additional persons, and that the total increase in payrolls will be about 28 per cent.

Mulch Paper Exhibit for Flower Show

The International Paper Company will have an exhibit of its mulch paper at the International Flower Show which opens at the Grand Central Palace Monday, March 19. In its exhibit the company will demonstrate for the first time in New York the use of mulch paper in its newly developed planned garden, and the display will be built around that invention. The most striking feature of the exhibit will be a huge painting, eight feet by ten feet, in natural colors, depicting the gorgeous array of flowers grown through the use of a planned garden.

The Come-Pakt planned garden, as it is known, is a new and extremely ingenious idea in gardening. It consists of a tube which contains a sheet of durable mulch paper with holes arranged in numbered sections to make the pattern. The package also contains from eight to seventeen packets of selected seed, each packet numbered to correspond to the pattern. The correct amount of Vigoro plant food is included together with wire and staples for anchoring the paper, and a sheet of specific instructions.

It is simple for anyone to make this home flower garden a thing of real beauty. The basis of the Come-Pakt planned garden is the sheet of mulch paper that does two things. It is not only the pattern itself to guide in the planting, but it also remains on the ground during the season and acts as a "mulch". Mulch paper raises the temperature of the soil, conserves moisture, and eliminates the labor of weeding. It gives bigger, sturdier, healthier plants—earlier blooming and longer lasting—with a greater profusion of flowers.

The use of the Come-Pakt planned garden is simplicity itself. After the soil has been prepared and fertilized with the plant food, the mulch paper pattern is laid and anchored and the seeds planted from each numbered packet through the corresponding numbered holes in the paper. It is no longer necessary to search for proper varieties and colors of flowers for a garden as a group of well-known floriculturists has already done so. The home-owner simply plants as directed and watches his garden grow.

Frederick L. Stanton Dead

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., February 26, 1934—Frederick L. Stanton, prominently identified with the National Paper Products Company, died recently at his home here following a brief illness. He was 42 years old. For many years he had served as mechanical engineer and machine designer at the local plant. He was also the inventor of numerous parts of paper machines and only a year ago was awarded a patent for a twin-fold machine. He had been identified with the local mill since it was taken over by the Crown-Zellerbach interests.

Alexander Thomson Approves NRA

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 12, 1934—Alexander Thomson, president of the Champion Coated Paper Company, Hamilton, and recently-elected head of the Ohio Chamber of Commerce, this week submitted to an interview. His opinion, freely expressed, was that the NRA has done good work and that democracy is not weakening.

The interview was brought about through a discussion of reforestration and is of particular significance at this time.

"Trees are like crops, like wheat; they should be replaced as fast as cut off," said Mr. Thomson, who added that the Champion Coated Paper Company has planted about 2,500,000 trees a year, mostly spruce, hemlock and poplar, on his 1,600 acre farm near Versailles, Ind. In addition there have been planted 300,000 white pine, spruce, poplar and black walnut trees.

"The Champion Coated Company has 40,000 acres of timber land but buys much of its supply of timber from farmers within an economic radius of the pulp mill. Farmers cutting their spare logs from their timber tracts and bringing them to the mill are paid in excess of $1,000,000.

"It is good to see a changed attitude in our country towards reforestration," said Thomson. "The Civilian Conservation corps, putting some hundred of thousands of young men to work in the forests and open country has been a worthy effort. The young men have planted millions of trees and taken part in a nation-wide movement for reforestation and prevention of soil erosion.

"They have helped to make the country conscious of the need of reforestation, of the damage done by soil erosion and of the value of forests for preserving soil, maintaining a good climate, regulating river flow, furnishing timber for future generations, as well as for scenic beauty.

"The importance of conserving forests and thus water resources is indicated by the fact that the water table under the state of Ohio had dropped about seven feet in recent years. This means that every gallon of water pumped to the surface must be lifted that much higher—and at additional cost."

With the NRA leaders at Washington welcoming suggestions or criticisms, Mr. Thomson was asked for his opinion: "I think the NRA has done a good work," he replied. "The Blue Eagle flies under the American flag at our plant. We have put in the NRA wholeheartedly and are carrying it out in good faith.

"Is there any likelihood that American democracy will give way to a fascist or other dictatorship?" Mr. Thomson was asked.

"I don't think our democracy is weakening," he replied. "There will be no radical overturn here because our country has more schools, more hospitals, more roads, more worthy community effort of every kind, such as waterworks, police, parks and garbage disposal systems, than other countries. These public activities for the community welfare may be regarded as a proper form of socialism. On the other hand I would strongly deprecate any intrusion on the part of the government in what is the proper function of private business, namely the production of capital goods."

New Pulp Mill for Finland

A new chemical pulp mill will be built in Jakobstad, Finland, by one of the leading firms in the lumber industry, according to a report to the Department of Commerce. The capacity of the new mill will be 30,000 metric tons of chemical pulp annually. Spruce will be used as a raw material.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

St. Louis, Mo.—The Brooks Paper Company, Security Building, has concluded arrangements for lease of three-story building at 315-17 North First street, city, and will remodel and equip for new plant for manufacture of paper specialties. A portion of the structure will be used for storage and distributing service. As recently reported in these columns, present plant of company at 213 North Second street, was damaged by fire, with loss over $75,000, including equipment, and proposed plans to rebuild have now been abandoned with lease of structure noted, which will be developed for large capacity. Everett Brooks is vice-president.

Rochester, N. Y.—All-Fair, Incorporated, recently organized by Elmer E. Fairchild, Sr. and Jr., 4040 East avenue, R.F.D., Brighton, N. Y., and associates, plans early operation of plant at Rochester, for manufacture of a line of paper boxes and containers. Elmer L. Hewitt, 36 Hampshire drive, R.F.D. No. 1, Rochester, is interested in new company.

Cleveland, Ohio—The Industrial Rayon Corporation, West 98th street and Walford avenue, city, manufacturer of cellulose rayon products, has negotiations under way for purchase of site in the Middle West for a new plant. Investigations are being made at Fort Wayne, Ind., under the direction of the Fort Wayne Chamber of Commerce, for suitable local track of land, and at Coshocton, Ohio, where the industrial committee of the Coshocton Business Men's Association, J. J. Dolan, chairman, is locating a desirable site. Early decision will be made. The new plant will consist of several main operating units, with power house, pumping plant, machine shop and other mechanical structures. It is reported to cost over $1,500,000 with equipment. Facilities will be provided for a large working force. Christian, Schwarzenberg & Gaede Company, 1836 Euclid avenue, Cleveland, are architects for the company.

Newark, N. J.—The Karl Manufacturing Company, Inc., recently organized by Karl Hauselman, 16 Main street, Newark, and associates, is planning operation of a local plant for the manufacture of paper boxes and containers of various kinds.

Emeryville, Cal.—The Paraffine Companies, Inc., 475 Brannon street, San Francisco, manufacturer of building papers, fiberized floor coverings, etc., has finishing work well under way on new one-story addition to mill at Emeryville, previously referred to in these columns, and will occupy the structure by the close of the month. Final contract to be let is that for painting to H. C. Lovett, 4400 Broadway, Oakland, Cal., and this work is in progress. The new unit will be used for increased capacity and will represent an investment of close to $40,000, with equipment. Leland Rosener, 233 Sansome street, San Francisco, is engineer.

Los Angeles, Cal.—The Southern Kraft Corporation, a subsidiary of the International Paper Company, 220 East 42nd street, New York, with mills at Panama City, Fla.; Camden, Ark.; Mobile, Ala., and other points, has filed notice of company organization to operate in California, with capital of 100,000 shares of stock, no par value.

Milwaukee, Wis.—The American Paper Box Company, Inc., 1011 West McKinley avenue, recently organized, plans operation of local plant for the manufacture of paper boxes, cartons, etc. New company is headed by Allen A. Breed and Lester H. Ness.

Leetonia, Ohio—The Paper Mache Company, Pittsburgh, Pa., affiliated with the Adcraft Products Corporation, 117 North Highland avenue, Pittsburgh, has begun remodeling and improving buildings recently leased at Leetonia, consisting of several one-story structures, previously reported in these columns, and plans to begin installation of equipment at early date for manufacture of a line of special paper products. It is proposed to have the plant ready for operation near the close of the month. Dr. K. T. Peters is head of company, and will be in charge of production at the Leetonia factory.

Lockland, Ohio—The Philip Carey Manufacturing Company, Cincinnati, has approved plans and will soon award general contract for the rebuilding of one-story storage and distributing building at Lockland mill, recently destroyed by fire, with loss estimated at close to $50,000. Reconstruction will cost approximately a like sum. An overhead traveling crane will be provided, as well as other mechanical-handling equipment. Company engineering department is in charge.

Plattsburgh, N. Y.—The Berst-Forster-Dixfield Company, 420 Lexington avenue, New York, N. Y., operating the Standard Pulp Products Company, Inc., Plattsburgh, is concluding arrangements for purchase of bonds and stocks of the Saranac River Power Corporation, which furnishes power supply for the Plattsburgh mill. This is the only consumer of the power plant, using the entire output. With this acquisition of controlling interest, the Berst-Forster-Dixfield Company will operate the plant as a private enterprise, developing increased power as required for the pulp and paper mill.

Gatineau, Que.—The Canadian International Paper Company has made another advance in production schedule at its Gatineau newsprint mill, and will operate on a basis of five and one-third days a week, or within two-thirds of a day of full normal schedule. A full working quota is being employed. The new operating basis will be maintained for an indefinite period.

New Companies, Etc.

New York, N. Y.—The Cup Craft Paper Corporation has been organized with capital of 100 shares of stock, no par value, to manufacture paper cups and kindred paper goods. New company is represented by Edward E. Deutsch, 299 Broadway, city.

Wauwatosa, Wis.—The Lees Paper Corporation, 6809 West Wells street, has been organized by H. R. and F. E. Lees, and W. E. Krause, all of Wauwatosa, to manufacture and deal in paper goods.

Chicago, Ill.—The Advance Paper Products Company, 728 Melrose street, has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in paper goods.

New York, N. Y.—The Allied Label Manufacturing Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to manufacture paper labels and allied paper products. Solomon Rein, 75 Ocean avenue, Brooklyn, N. Y., is one of the principal incorporators.

Utica, N. Y.—H. Horwitz & Sons, Inc., has been incorporated with capital of $30,000, to manufacture and deal in paper mill supplies. The incorporators are Jacob and Nathan S. Horwitz, Gloversville, N. Y.; and Harris Horwitz, 1603 Taylor avenue, Utica. Last noted heads the company.

Los Angeles, Cal.—The Harry Frisch Paper Company, Inc., has been organized with capital of $15,000, to manufacture and deal in paper products. The incorporators are Lew Gronich and Harry Frisch, both of Los Angeles.

Worcester, Mass.—The Massachusetts Paper Mills Corporation has been chartered with capital of 40 shares of stock, no par value, to operate a pulp and paper mill in this vicinity. Joseph P. McCormack, Wheelwright, Mass., is principal incorporator.

New York, N. Y.—The I. S. Paper Company, Inc., has been incorporated with capital of 200 shares of stock, no par value, to deal in paper products. The incorporators are Shirley Morrell, 726 Shepherd avenue, Brooklyn, and Henry Rosenthal, 225 Broadway, New York.

New York, N. Y.—The Master Paper Products, Inc., has been organized with capital of 200 shares of stock, no par value, to manufacture and deal in paper products. Mortimer Sattler, 250 West 57th street, New York, and Richard S. Joseph, 1108 Grossmere avenue, Far Rockaway, N. Y., are principal incorporators.

Chicago, Ill.—S. Siegle & Son, Inc., 5118 South State street, has been organized with capital of 30 shares of stock, no par value, to deal in paper boxes, cartons and other containers. Samuel and Marvin Siegle head the company.

New York, N. Y.—The Moulded Pulp Research Corporation, 60 East 42nd street, has filed notice of change of name to the Moulded Pulp Corporation.

Elmira, N. Y.—The Briggs Merchandising Corporation has been incorporated with capital of $10,000, to manufacture and deal in paper specialties and paper novelties. The incorporators include Harry B. Palmer and Frederick B. Andrus, 366 Diven avenue, Elmira.

J. O. Ross Engineering Corp. Moves

The J. O. Ross Engineering Corporation announces the removal of its offices from 122 East 42nd street, to the Borden Building, 350 Madison avenue, New York on the 18th floor. The new telephone number is Vanderbilt 3-5860. The John Waldron Corporation of New Brunswick, N. J., also has offices in these new quarters.

Indianapolis Paper Demand Steady

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., March 12, 1934—Considerable steadiness is seen in the local paper situation, not confined to any one or two lines, but virtually to the entire list. Prices are being firmly held and in manufacturing and jobbing there seems to be a minimum confusion concerning code provisions. Some misunderstandings have occurred, but they are being ironed out and the general impression is that the entire program will work out satisfactorily. There are some, of course, who don't believe the code system is the answer to the problem, but with no exceptions, an honest effort is being made to conform to all provisions and even the Doubting Thomases are willing to give it a fair trial.

During the past week the Indiana governor admitted that he was planning to do virtually all the state printing in the Indiana penal institutions.. At the present time a vast amount of work is being done in the state house via the multigraphing method. Paper jobbers would do well to take cognizance of this movement, which now is being fought by master and journeyman printers. The multigraphing system is using a cheap grade of paper and the governor claims it will save $100,000 a year to the state. At the present time all state printing is awarded through competitive bidding by the state printing board.

The paper stock situation here last week appeared a trifle improved. The better grade of paper and rags seemed to have more demand than has been the rule. Mills are careful about their buying and are not inclined to overstock, but prices are improved and it is believed the increase will spread eventually to the cheaper grades of stock.

Fine paper demand last week was about as it has been for some time. Contracts virtually all are signed and orders thus far this year have been more satisfactory than they were at the same period a year ago. Prices are well held. The container trade apparently is well satisfied. There are orders coming in from new sources right along and even though orders from established customers are on a hand-to-mouth basis, the demand base is spreading. Waxed paper demand is good. Indiana factories are working better than normal. Inquiries now are being received for summer specialties. The carry-over in retail hands last fall was the lowest it has been for years and an early actual demand is expected.

British Paper Market Improves

The British paper market continues to show improvement and the outlook at present is more hopeful than at any time during the past twelve months. The demand for kraft and greaseproof papers is particularly strong just now and plants making these classes are well employed. In the newsprint section of the industry conditions are also favorable and there is a good sale for stationery. In the export trade conditions are less satisfactory than a year ago. Imports of paper into the United Kingdom show a rising tendency.

Single Motor Paper Machine Drive

A leaflet describing single motor paper machine drives with automatic electronic speed regulation has recently been issued by the Westinghouse Electric and Manufacturing Company. The speed, accuracy and sensitivity of this electronic regulator are remarkable. Its reaction to a change of speed is, however slight, almost instantaneous. Copies of the publication may be obtained from the nearest district office or direct from the advertising Department, East Pittsburgh, Pa.

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PAPER BIDS NOT UNFAIR

In connection with a discussion of the high cost of battleships on the floor of the Senate last week, Senator Nye of North Dakota made an interesting statement relative to paper bids received for the Government Printing Office to which leading paper manufacturers made exception. They were at Washington attending the NRA code meetings. Senator Nye said: "In connection with what the Senator from Washington just said, I think his attention ought to be called to the fact that prices have not ceased going up, even during more recent years. I understand that the Joint Committee on Printing of the Congress, dealing this morning with bids received by the Government Printing Office for papers that have to be used during the next fiscal year, found the bids quite similar under the new code system, and found also that the costs of the papers involved were something like 40 to 50 per cent higher than they were in 1929, when we presumed we had reached the peak.

"I understand certain members of the committee have made inquiry and discovered that in spite of these increases in costs, the cost of labor involved in producing paper is something like 20 to 30 per cent lower than it was in 1929, and the cost of the raw material to which the paper manufacturers must resort is something like 15 per cent less now than it was in 1929. Yet the bids to the Government Printing Office call for 40 per cent higher prices than were offered in 1929.

"On that basis, how much is a battleship or a battle cruiser or destroyer going to cost today if it cost a certain amount in 1904 or in 1929?"

That Senator Nye's statements made in comparing prices submitted on recent Government paper bids were inaccurate and unfair to the paper industry is indisputably proven by the following factual data obtained from the Paper Industry Authority:

AWARD PRICES BY GRADES OF PAPER PURCHASED BY U. S. GOVERNMENT
BIDS AWARDED DURING JANUARY 1929 AND 1934
(Expressed in Cents Per Pound)

Grade	1929	1934	Percentage Increase (+) or Decrease (—) in 1934
Newsprint	3.02	2.025	—33
M. F. Book Rolls	5.18	4.58	—11
Super Book	5.12	4.63	—10
Sulphite Writing Flat	6.18	5.57	—10
Sulphite Bond	6.57	6.06	— 8
25% Rag Bond	10.26	11.64	+13
50% Rag Bond	11.71	14.06	+17
Sulphite Manila	6.00	4.41	—26
#2 Kraft Rolls	4.05	4.04	..
Postal Card	4.83	3.90	—19
Binders Board	3.37	3.38	..
Chip Board	1.85	1.77	— 4

Only two grades were higher in 1934 than in 1929, i.e. 25 per cent rag content bond and 50 per cent rag content bond for which there are sound reasons—whereas must of the other grades indicate decreases ranging up to 33 per cent.

COMPARISON OF LABOR COSTS PER TON AS REPORTED BY 209 IDENTICAL PAPER MILLS
(Total Labor Cost Divided by Total Tonnage)

May, 1929	*December*, 1933	Decrease *December*, 1933
$11.58	$10.99	5.1%

Since December, 1933, there has not been much change in labor costs but the tendency is upward, and the decrease of about 5 per cent from 1929 to 1934 is far less than Senator Nye's statement of "something like 20 to 30 per cent."

Accurate conclusive data is not available on the relationship between raw material costs per ton of paper now and in 1929, but it is believed that Senator Nye's statement in that respect is substantially correct. However, his statement loses its effect in view of the fact that the current bid prices are actually lower than in 1929, as opposed to the incorrect premise that they are greater, on which he based his whole argument.

FOREST SITUATION OF CANADA IS "HIGHLY UNSATISFACTORY"

The Dominion Government, through Department of the Interior, has just issued a detailed report on the forests of Canada showing that the present situation is, to use its own words, "highly unsatisfactory." "We are eating into our forest capital year by year at an alarming rate," the report states. During the past ten years there has been a notable improvement in forest-protection operations; nevertheless, losses through forest fires and their attendant evils of insect depredations and fungous diseases still constitute a national problem of major proportions.

It is shown that the total forest area in Canada is 1,153,000 square miles, of which 792,000 square miles is considered accessible and capable of producing commercial timber crops. Of the accessible and productive forest area, about 379,000 square miles carry timber of merchantible size and 413,000 squares miles bear young growth of various ages. Conifers predominate on 61 per cent of the productive area, hardwoods on 12 per cent, and mixed stands on 27 per cent.

Nine-tenths of the forest land is owned by the people of Canada through the Dominion and Provincial governments, and only one-tenth is privately-owned. Licenses to cut timber have been granted on 13 per cent of the Crown area, and 77 per cent of the forest land is unalienated in any form. The private and licensed forests, however, are relatively more accessible, and carry much heavier stands than those still unalienated. It is estimated that 85 per cent of the merchantible timber is on Crown land, 40 per cent under license, and 45 per cent still unalienated.

Under normal conditions the provincial governments derive a direct revenue of about $15,000,000 annually from the forests in the form of royalties, stumpage bonuses, rentals and other charges and spend about $5,000,000 in administration and fire protection. The indirect revenue is believed to exceed the direct revenue.

The total stand of timber in Canada is now estimated at 267,733 million cubic feet, of which 165,846 million cubic feet is classed as accessible and includes 290,000 million feet board measure of saw material and 920,000 million cords suitable for pulp wood, fuel wood, posts, etc. British Columbia has about one-third of the accessible timber in the Dominion and over one-half of the saw material.

Over a five-year period it is estimated that the average annual amount of standing timber cut for use was 2,970 million cubic feet, and the amount destroyed by fire 230,000 million cubic feet. There is no reliable basis for estimating the losses due to insects and diseases, but there is good reason to believe that the depletion from all sources may approximate from 3,500 million to 4,000 million cubic feet.

Generations of unregulated cutting and frequent and extensive fires have seriously depleted the more accessible and valuable stands. On an average for the decade there were burned annually more than 1,000,000 acres of young growth. The insect menace is illustrated by the fact that from 1913 to 1923 the spruce budworm in Eastern Canada is estimated to have killed between 100 and 150 million cords of balsam fir and spruce.

The report holds that the solution of the problem of forest depletion is possible only by concerted action on the fact of the federal and provincial governments and the forest industry at large, backed by a strong public opinion. Segregation of timber lands, restriction of settlement, land classification, a comprehensive inventory of forest resources and the keeping of the annual depletion within the quantity of wood annually produced by growth, are among the major solutions suggested.

Finnish Pulp Production Increases

Chemical pulp production in Finland during 1933, according to figures released by the Finnish Cellulose Union and one independent mill, totaled 921,245 metric tons as against 869,419 metric tons in the preceding year. Association mills produced 594,252 tons of sulphite pulp as against 557,782 tons in 1932, while the independent mill turned out 90,093 tons and 81,437 tons respectively. Production of sulphate pulp, which was manufactured entirely in Association mills, amounted to 236,900 tons last year, an increase of 6,700 tons over 1932.

Waste Material Convention Program

Advance registration and reservations for the Twenty-first annual Banquet of the National Association of Waste Material Dealers, Inc., indicate an attendance of 600 both at the Convention and the Annual Dinner. Delegates representing many local, state and sectional associations in the waste material trade will be in New York to attend the conference scheduled for Tuesday afternoon, March 20 on the subject: "Code Enforcement and the Local Association." Representatives on all Code Authorities will be selected at the various meetings of the Divisional Associations. The detailed tentative program follows: All meetings to be held at the Hotel Astor, New York.

MONDAY, MARCH 19
Registration all day (8th Floor)

11:00 A.M.—Meeting of Executive Committee Waste Paper Institute.

2:00 P.M.—Joint Meeting Board of Directors and all Executive Committees of Divisional Associations.

3:00 P.M.—Meeting of Executive Committee of each Divisional Association, meeting separately to canvass ballots and certify as to election of members. Select members for respective code authorities.

7:00 P. M.—Dinner meeting of the Board of Directors. New members of the Board invited to sit in.

TUESDAY, MARCH 20
Registration all day (8th Floor)

10:00 A.M.—Opening session of National Association of Waste Material Dealers, Inc. (all Divisions meeting together). Brief Address by President Birkenstein. Statement in reference to the code situation and general announcements.

11:00 A.M.—Each Divisional Association, meeting alone for consideration and discussion of suggestions which, with the aid of Code Authorities, might benefit the respective branches of the trade.

1:00 P.M.—Members Luncheon—For members and visiting delegates.

2:00 P.M.—Nation-wide conference on the subject "Code Enforcement and the Local Association." Local, State and Sectional Organizations will participate. Prominent NRA representative expected to be present.

7:00 P.M.—Meeting of Board of Directors. (Adjourned from Monday evening).

WEDNESDAY, MARCH 21
Registration 10 A.M. to 2 P.M.

10:00 A.M.—All Divisional Associations to meet separately. Announcement of and final action on all matters before the respective Divisional Associations.

1:00 P.M.—Members Luncheon. (An effort will be made to arrange seating by branches of the trade).

2:00 P.M.—Annual Meeting N.A.W.M.D. All groups meeting together for the election of national officers.

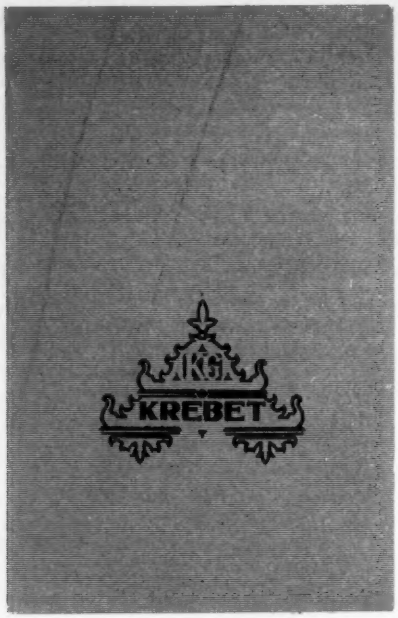
3:00 P.M.—Annual Meeting of Board of Directors.

7:00 P.M.—Twenty-first Annual Banquet, New Ballroom, Hotel Astor.

Paterson-Pacific Insures Help

Life insurance in amounts ranging from $1,000 to $2,500 has been granted to each employee of the Paterson-Pacific Parchment Company, of San Francisco, Cal., through a group policy recently acquired by that organization.

The policy involves a total of $64,500 and was issued by the Prudential Insurance Company of America. The employees receive it without any cost to them, the policy being of the non-contributory type.



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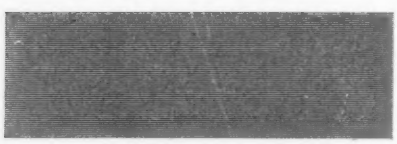

AMERICAN CYANAMID & CHEMICAL CORPORATION

535 Fifth Avenue, New York

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Effect of Beating on Cellulose Fibers

Larkfield, Kent, England.

EDITOR, PAPER TRADE JOURNAL:

As one who has always been interested in the changes which occur to fibers during beating, I have read with great interest the letters of W. Boyd Campbell and James d'Arcy Clark, published in your issue of January 18. I have not seen in any of Dr. Boyd Campbell's writings anything to intimate that he denies that fibrillation takes place in industrial beaters, or denies that this fibrillation is of paramount importance. What Dr. Boyd Campbell does say is that this fibrillation is only one means to an end, i.e. the provision of increased contact area between fiber and fiber, so that fibers may adhere more strongly together and build a stronger sheet, and that this increased contact can be brought about by means other than fibrillation, although such means may not be used industrially at present.

However, Dr. Boyd Campbell is quite capable of looking after his own case without any assistance from me. When Mr. Clark, in connection with Dr. Boyd Campbell's criticism of Mr. Strachan's experiments says: "While some of them may not actually prove anything regarding cellulose fibers, yet they are certainly demonstrative," I wonder what he means. If they do not prove anything, what use are they? Does "demonstrative" mean that they serve as *analogies* to illustrate and facilitate the comprehension of the theory? An analogy is no proof, however, and its only value is to (a) open up a possible line of explanation which has then to be proved, or (b) convey a pseudo-explanation to a novice in terms which he can comprehend when he is incapable through lack of auxiliary knowledge of assimilating the real explanation and proof.

I agree that Dr. Boyd Campbell's criticism of Mr. Strachan's theories is a logical and correct summation of the position. To be quite fair to Mr. Strachan, however, the latter has stated his ideas a little more clearly in the "Paper Maker," Vol. LXXXVI, No. 5, p. 2 TS (November, 1933). Therein he defines more definitely what he means by increase of specific external surface during beating. By this he means apparently that a very thin layer on the surface of the fiber has its specific surface increased by beating. He says: " . . . Even if there is 100 per cent increase on the fibrillar surface of the outside of the fiber produced by beating, this may only represent one-half of one per cent on the total inter-fibrillar surface of the undisrupted spiral structure of the fiber." The inference from this is apparently that the increased bonding of water brought about by this increase of specific surface of the thin layer at the surface of the fiber would be so little that it would not be detected by vapor pressure measurements or X-ray analyses, etc.

However, he offers no experimental evidence in support of this hypothesis. One would expect for instance if this hypothesis were true that this outer layer of the beaten fibers would show increased absorption of dyes compared with the interior of the fibers, owing to the increased specific surface of this external layer. Also in my experience, however ideal this treatment of the external layer of the fiber may be, it is never achieved in practice, either in industrial beating or in laboratory beating. In the former case, the fibers are split right through longitudinally, or splayed at the ends longitudinally, while in the latter case quite deep and appreciable portions of the fiber surfaces are shredded or else the ends shredded out longitudinally, or both. The former is true even of fibers which are supposed to be well beaten but have their length preserved. Fibers showing none of these effects are either raw or only very slightly beaten and do not make into a strong sheet.

In the same article Mr. Strachan also attempts to define more clearly the nature of the bonding of water in the beaten fiber. He says: "In this process, the absorption and expulsion of water, hydration and dehydration, play an essential part which is purely physical, and do not involve even the secondary valencies of the cellular molecule beyond the attraction of the latter for water produced by the electrical field of the micelles and their aggregates." I must admit that the foregoing is not at all clear to me. It would appear that the second part from the word "beyond" contradicts the first. I am afraid also I lack sufficient knowledge of physical chemistry to conceive in my mind the nature of the electrical field or how it arises. I thought however, it might be interesting to your readers to have the latest pronouncements of Mr. Strachan.

LESLIE G. COTTRALL,
Albert E. Reed & Co., Ltd.

Paper Code Hearings Scheduled

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 14—Public hearing will be held on March 20 at NRA on divisional codes for the crepe paper, paper napkin, and vegetable parchment paper branches of the paper and pulp industry.

The proposed supplemental codes set up divisional administration and fair trade practice rules for the three divisions under the master code for the paper and pulp industry.

On March 22 hearing will be held on proposed rules of fair trade practice for the waxed paper industry.

Permanganate Number of Pulp*

By R. H. Wiles[1]

Scope

This method is adapted to the determination of the relative hardness or bleachability of pulp. It may be used with practically equal ease upon all ordinary types and grades of wood pulp (sulphite, soda, sulphate and mechanical) sampled in any moisture condition or concentration and at any stage of processing.

The permanganate number is by definition the number of cubic centimeters of one tenth normal potassium permanganate solution (0.1 N $KMnO_4$) which is absorbed by one gram of the oven-dry pulp under certain specified and carefully controlled conditions.

This permanganate number may be readily converted into other terms frequently used to denote relative hardness or bleachability. These include chlorine numbers, per cent bleach consumption and permanganate numbers obtained under other test conditions than those specified here.

Apparatus

A small mechanical stirrer with a propeller type agitator made of glass or other noncorrosive material. A motor driven stirrer similar to a small soda fountain mixer is quite suitable. A propeller speed of about 500 r.p.m. is advisable, a variable speed stirrer being preferable to one with a single speed.

Several white porcelain or white enamel-lined reaction beakers, in sizes of about 1000 and 1500 cc. Glass beakers are suitable but white lined beakers are more satisfactory for the titration in this method.

One or more glass burettes for titrations. Two of these in the 50-cc. size and reading to 0.1 cc. are most satisfactory.

A small Büchner funnel and filter flask when slush pulps are being tested.

Several small glass beakers and graduated cylinders of the ordinary laboratory type.

Reagents

0.1 N Potassium Permanganate Solution—of exact or known concentration.

0.1 N Sodium Thiosulphate Solution of exact or known concentration.

Normal Potassium Iodide Solution of approximate concentration.

4 N Sulphuric Acid of approximate concentration.

Starch Indicator Solution.

Test Specimen

The sample of pulp from which the test specimen is obtained shall be taken in any established or well recommended manner, in such a way that it shall be representative of the whole flow or lot sampled from. The sample may be in any form of dry or slush pulp and may be at any moisture content or concentration.

The test specimen shall consist of one gram oven-dry weight of pulp. While any convenient and suitable method may be used to weigh or to measure out the portion of the pulp sample used as the test specimen, ordinarily sufficient accuracy in weight cannot be obtained unless the sample is dried and the test specimen is weighed out in the oven-dry condition.

If pulp is sampled in the slush condition, whether the test specimen is weighed or measured out directly from the slush stock, or whether the sample is dried first and the test specimen weighed out from the dry pulp, the sample to be dried in the second case or the measured amount for the test specimen in the first case should be placed in the Büchner funnel and the original effluent filtered off. The pulp mat should then be washed well with warm water and again filtered dry. Thus whether dry or slush pulp is sampled, the test specimen is used in the dry or filtered dry condition.

After being weighed out (or measured out and filtered) the one gram test specimen is distintegrated and defibered with a measured quantity (50 to 400 cc.) of distilled water. When disintegration is done by hand with a glass rod a small quantity of water such as 50 cc. or 100 cc. is usually preferable. When, on the other hand, the stirrer is used as a disintegrator a larger quantity of water is usually advantageous.

Procedure

A permanganate concentration of N/300 has been found to oxidize ligneous encrustants upon pulp fibers rapidly and completely and yet, even with moderate excesses does not attack cellulose appreciably. Accordingly a reaction mixture N/300 in permanganate is used for this test, the dilution of the N/10 reagent to N/300 being made with H_2SO_4 and distilled water in definite proportions.

For pulps of average bleachability 25 cc. of 0.1 N $KMnO_4$ is used for the test and the total volume of the reaction mixture, in order to be N/300 in permanganate, is 750 cc. This quantity is made up of 25 cc. of 4 N H_2SO_4 and 700 cc. of distilled water, in addition to the 25 cc. of 0.1 N $KMnO_4$ used.

For pulps of rather high bleachability 40 cc. of 0.1 N $KMnO_4$ is used, and in order to have the reaction mixture N/300 in permanganate the total volume is 1200 cc. This is made up of 40 cc. of 0.1 N H_2SO_4 and 1120 cc. of distilled water in addition to the 40 cc. of 0.1 N $KMnO_4$.

For pulps of very high or of very low bleachability proportionate quantities of 0.1 N $KMnO_4$ are used. In each case the same volume of 4 N H_2SO_4 is used as is used of 0.1 N permanganate, and a quantity of distilled water added such as to dilute the whole to N/300 in permanganate. The reaction mixture is, therefore, always 0.133 N in H_2SO_4 as well as N/300 in $KMnO_4$.

It having been decided upon what quantity of permanganate will be used, this amount of the 0.1 N $KMnO_4$ solution is accurately measured out into a small beaker. A like amount of the $4(NH_4)_2SO_4$ is measured out into another small beaker or into a glass graduated cylinder. The quantity of distilled water which will be required to dilute the mixture to N/300 in permanganate is then calculated and this amount, less any which may have been already used in which to disintegrate the test specimen, is measured out into a third beaker. This distilled water should be adjusted in temperature if necessary so the reaction mixture when all the constituents are together will start reacting at just 25 deg C.

The disintegrated test specimen, if it was not disintegrated in the reaction beaker, should now be rinsed into

Received January 23, 1934.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., February 19 to 22, 1934.

[1] Member TAPPI, chief of pulp testing section, Bureau of Tests, International Paper Company, Glens Falls, N. Y.

the latter using a portion of the remaining distilled water for this purpose. The measured amount of H_2SO_4 is then added to the pulp, the reaction beaker is placed beneath the stirrer and the latter is started. The measured quantity of $KMnO_4$ is then quickly added to the mixture, the permanganate beaker is rinsed with the remaining distilled water and the whole is quickly added to the reaction mixture. The reaction starts at the moment the permanganate solution is added and, as has been noted, should start at just 25 deg. C.

The reaction is allowed to continue under the stirrer, the latter rotating at 500 r.p.m., for just 5 minutes from the time the permanganate was added. At the end of this time 5 cc. of the normal potassium iodide solution is added to the mixture, which addition immediately stops the reaction. The stirrer may then be stopped also.

The permanganate which was not used up in reaction with the pulp at the time the reaction was stopped is immediately reacted upon by the KI when the latter is added, releasing free iodine in proportion to the amount of permanganate which remained. This free iodine is now titrated with the 0.1 N $Na_2S_2O_3$ solution, using a few drops of starch indicator near the end of the titration. The titration is made in the reaction beaker without filtration, i.e. in the presence of the bleached pulp fibers.

Report

The number of cc. of 0.1 N $KMnO_4$ actually consumed by the pulp is determined by subtracting the number of cc. of 0.1 N $Na_2S_2O_3$ used in the back titration from the number of cc. of 0.1 N $KMnO_4$ originally added to the mixture. This quantity is reported to the nearest 0.1 cc. as the Permanganate Number.

Precision

In most cases measurements and titrations are made to the nearest 0.1 cc. with considerable accuracy. Where the test specimen is weighed out bone dry a similar accuracy may be expected in the sample weight. The test accordingly is reported upon this basis. Where another method of determining the weight of the pulp specimen is used such accuracy as the above can not be expected.

Duplicate tests should be run whenever possible and should agree to within 0.5 cc.

Additional Information

It has been variously stated in the literature which describes several more or less well known methods upon which this method is based, that following their various procedures a considerable tolerance may be allowed in many of the test conditions with very little effect upon the test results. This has been found generally not to be the case, either with these methods mentioned or with the one just detailed here. In general all the well known laws of temperature, concentrations and time in chemical reactions have been shown to hold in their proportions for this reaction between permanganate and ligenous matter. Accordingly, in order that a truly standard test with results capable of duplication may be carried out, all conditions must be maintained definitely as detailed in the method. In order that duplicate tests should agree to within 0.5 cc. no more than the following tolerances should be allowed.—.

Weight of test specimen	o.d. 1.00 gram	±0.02 grams
Temperature at start of reaction	25 deg. C.	±2.0 deg. C.
Time of reaction		5 mins. ±20 secs.
Permanganate concentration		N/290 to N/310
Acid concentration		.128 N to 0.139 N (25 cc. 4 N ± 1 cc. when 25 cc. of $KMnO_4$ is used)

This test when used for sulphite pulps may also be reported as a Chlorine Number, i.e. as grams of chlorine absorbed per 100 grams of oven-dry pulp. The permanganate number as determined is multiplied by 0.355 and the product is divided by a factor. The chlorine number obtained by so doing is the number of grams of chlorine in the form of calcium hypochlorite solution necessary to bleach 100 grams of the oven-dry pulp to a good commercial white in a single stage of operation. The chlorine number again multiplied by 2.86 gives the same information in terms of percentage of 35 per cent bleach. While the same factors may be used for soda and sulphate pulps, the quantity of chlorine stated generally will not give a good commercial white in a single stage bleach. (See table of factors attached.)

CONVERSION TABLE FOR PERMANGANATE TEST

$KMnO_4$ No. (cc. 0.1 N $KMnO_4$ per O.D. gram. pulp)	Factor	Chlorine number	d/10
0	...	0.00	0
1	0.818	0.43	0.04
2	.810	0.88	0.04
3	.802	1.33	0.04
4	.794	1.79	0.05
5	.786	2.26	0.05
6	.778	2.74	0.05
7	.770	3.23	0.05
8	.762	3.72	0.05
9	.755	4.24	0.05
10	.747	4.75	0.05
11	.739	5.29	0.05
12	.732	5.82	0.05
13	.724	6.39	0.05
14	.716	6.94	0.06
15	.709	7.52	0.06
16	.702	8.10	0.06
17	.694	8.70	0.06
18	.686	9.31	0.06
19	.679	9.94	0.06
20	.672	10.56	0.06
21	.664	11.21	0.07
22	.656	11.90	0.07
23	.648	12.60	0.07
24	.641	13.27	0.07
25	.634	14.00	0.07
26	.626	14.73	0.07
27	.618	15.50	0.08
28	.611	16.25	0.08
29	.604	17.05	0.08
30	.596	17.85	0.08
31	.589	18.70	0.08
32	.582	19.50	0.08
33	.574	20.40	0.09
34	.567	21.25	0.09
35	.560	22.15	0.09
36	.552	23.10	0.10
37	.545	24.10	0.10
38	.538	25.05	0.10
39	.531	26.05	0.10
40	.522	27.20	0.11

$$\text{Cl. No.} = \frac{KMnO_4 \text{ No.} \times 0.355}{\text{Factor}}$$

d/10 = Difference in chlorine number for 0.1 cc. of $KMnO_4$ in permanganate number.

Approximate conversion charts and factors are also available for conversion between this permanganate number of chlorine number and the figures obtained by various other permanganate, chlorine and bleach consumption methods frequently used in the industry and described in the literature. These include—

T.A.P.P.I. Standard T 202 M—Chlorine Consumption of Pulp.

Roe and Genberg chlorination methods for pulp.

Björkman permanganate test (various modifications.)

Bergman, Griffin, Schwalbe, Enso & Werde methods for bleach consumption and a number of others less commonly used.

Modifications for Routine Mill Control Work

It is greatly to be preferred that, whenever possible, the test will be carried out exactly as detailed in the method. No greater tolerances should be allowed any variable than has been stated in the method.

Sometimes, however, particularly in routine mill control work, such an exacting procedure cannot be practically carried out. In such cases a considerable number of modi-

fications may be made to the standard procedure which will make the test more convenient to carry out, will shorten the time involved and yet will allow the test results to be maintained within a reasonable degree of accuracy and approximately checking with those obtained by the standard procedure.

In the method distilled water has been specified for all washings and dilutions. Where distilled water may not be conveniently supplied ordinary mill fresh water, if of reasonable purity, may be substituted without bringing about an appreciable error.

When the effluent with which pulp is mixed and is carried in the mill system is known from experiment to contain no appreciable amount of substance, other than the pulp itself, with which permanganate may react, the procedure of filtering and washing the slush pulp sample may be dispensed with. In case the consistency of the slush mixture is known with such an accuracy that a specimen containing 1.00 gram of oven-dry pulp to within ±0.05 gram may be measured or weighed out, the latter may be done and the specimen of slush pulp used directly. In case the sample is of more than 0.5 per cent oven-dry consistency it usually leads to greater accuracy to dilute it to about this consistency, keep it well agitated while a portion is measured out for a consistency test and, after the latter is determined, to measure out a quantity from the diluted and agitated mixture which has been calculated to contain one gram of dry pulp.

Another modification which saves some time consists of diluting the slush stock sample to approximately 0.5 per cent by appearance and measuring out several 200-cc. portions from the diluted and agitated mixture. One or more of these 200-cc. portions are used directly for the permanganate test while upon one or more other 200-cc. portions consistency tests are made while the permanganate reaction is going on. The average of these consistency tests which results is considered as being the oven-dry weight of specimen and as such is used in the calculation. If this weight is more removed from 1.00 gram than ±0.02 gram, a weight correction should be made upon the permanganate number as obtained. Correction charts are available for a number of pulps, while factors can readily be determined for other pulp types and correction charts made up if required.

Still another modification may be used which again saves time in calculation of sample weight. A slush pulp sample is measured out which is estimated to contain approximately one gram of dry pulp. The test is made upon this sample in the usual way. After the titration is made the pulp mixture in the reaction beaker is poured on the Büchner funnel, is filtered well, washed with warm water, is oven dried and weighed dry. (Care must be taken that all the acid is washed from the pulp or it will char on drying). A correction factor is then used which compensates for the weight of sample which was lost in the permanganate reaction, after which the above mentioned weight correction charts may be used, or the two corrections may be made upon one chart made up for this purpose.

Whenever slush pulps are used directly for the test the quantity of water in the slush mixture should be allowed for in dilution so the reaction mixture will be always N/300 in permanganate.

One of the most exacting variables to maintain standard is that of temperature of the reaction mixture at the start of the reaction. It frequently requires considerable attention to do this unless the reagents and dilution water are all kept in water baths at the correct temperature. In order that the test may be carried out under conditions where a standard temperature would be difficult to maintain, a series of temperature correction factors have been determined and plotted in the form of a temperature correction chart. By using this chart a considerable range of temperature may be utilized, since by measuring the temperature of the reacting mixture at the start of the reaction the permanganate number obtained may be converted to a permanganate number at the standard temperature.

While some other correction factors are available, or may be easily determined, which will approximately correct for other than standard reaction times and for other than standard permanganate and acid concentration, it is not considered that these are at all necessary nor recommended that they be used. It should be comparatively easy to maintain these factors reasonably close to standard at all times, for routine as well as for precise work.

Preparation of Solutions

0.1N Potassium Permanganate Solution is made by dissolving 3.161 grams of pure potassium permanganate in a little distilled water, filtering it through glass, wool or an asbestos mat, washing the filter well and then making up the filtrate to 1000 cc. with distilled water. The solution should then be standardized against a standard oxalic acid or oxalate solution and adjusted to just 0.1 normality. The solution should be kept in a dark colored bottle and away from the heat and light. It should be frequently checked for accuracy and should be maintained to within ±0.005 0.1N.

0.1N Sodium Thiosulphate Solution is made up from the pure salt in distilled water (24.820 grams $Na_2S_2O_3.5H_2O$ per liter) and standardized against standard iodine or against standard potassium dichromate solution. Sodium thiosulphate solution is relatively stable but should be checked at intervals and maintained to within ±0.005 0.1N.

Normal Potassium Iodide Solution, of approximate strength, is made up by dissolving 166 grams of pure KI in one liter of distilled water.

4N Sulphuric Acid Solution (approximate) is made up by slowly adding 125 cc of concentrated pure H_2SO_4 to 875 cc. of distilled water with constant stirring.

Starch Indicator Solution is made by mixing 5 grams of arrowroot starch with a little cold water and then adding with constant stirring about 1000 cc. of boiling distilled water. Set the solution aside to cool and then decant or filter. Add 2 cc. of oil of Cassia or of chloroform as a preservative.

Where, as is sometimes the case when the mill laboratory has little chemical equipment, standardized solutions cannot be made up practically, modified solutions may be used.

Approximate 0.1 N permanganate may be made by dissolving 3.17 grams of pure permanganate in one liter of water, with or without the filtration. Thiosulphate may be made by dissolving 24.8 grams of the salt in one liter of water while the other solutions are made as already stated. Even if approximate solutions are used it is preferable that the permanganate be checked and adjusted against the thiosulphate as made.

When permanganate solution is being used rapidly and made up frequently, the permanganate and acid may be combined in the same solution, both made up separately and added together. In this case 50 cc. of the combined solution is used instead of 25 cc. of each.

Where distilled water is not available other water may be used. For use in making up solutions however, rain water or condensate should be used in preference to lake or river water.

Zinc Sulphide Pigments In Today's Paper Industry–Their Incorporation and the Resulting Products*

By V. A. Belcher[1]

Abstract

The use of zinc sulphide pigment to increase the opacity of a sheet permits the use of lighter sheets for mailing. A number of calculations demonstrating this fact are given. New uses for zinc sulphide pigment are cited. These include waxing paper for food wraps, boxboard, absorbent paper, fruit wraps, paper pie plates.

At the TAPPI meeting in New York last year Dr. Kress of The Institute of Paper Chemistry and Mr. Cyr of The New Jersey Zinc Company research division gave a paper covering research work which had been done at Appleton on the use of zinc pigments in paper. The ensuing year has witnesesd some most interesting developments especially in the use of zinc sulphide pigments for opacifying and brightening various types of paper. This paper is intended to serve as a progress report and bring the subject up to date.

A year ago there was considerable question in the minds of paper manufacturers whether the cost of opaque pigments might be so high as to prevent their adoption in the industry, but it has been quite remarkable how this attitude has changed in view of the results. In addition to the usual laboratory development work a large number of commercial scale test runs have been made. These have afforded samples of commercial products of many different mills which are of interest, not only to the technical force but also to the sales departments whose job it is to present the new products to the paper consumer.

One of the manufacturers[2] of high grade rag paper has pointed out well that the cost of paper is only one item and must be considered as a part of the finished job with due consideration given to what it contributes to that job. Here is what he says about the cost of a record book.

	Bound	Loose Leaf
Printing	19 per cent	33 per cent
Ruling	20 per cent	20 per cent
Material and Overhead	20 per cent	10 per cent
Binding	18 per cent	18 per cent
Sewing	4 per cent	.....
Paging	2 per cent	.....
Folding	1 per cent	.....
Punching	.....	1 per cent
Staining	.....	1 per cent
Inspection	.....	1 per cent
Paper Costs	16 per cent	16 per cent
Fixed	84 per cent	84 per cent

You will note that the total cost of paper is only 16 per cent of the cost of a record book, 84 per cent being fixed charges.

On the other hand 99 per cent of the cost of a letter is fixed as shown in the following table.

Dictation	37 per cent
Stenography	32 per cent
Overhead	12 per cent
Materials [a]	10 per cent
Postage	6 per cent
Printing [b]	2 per cent
Fixed Costs [c]	99 per cent
Paper	1 per cent

[a] Exclusive of paper and envelopes.
[b] Or lithographing or engraving.
[c] Envelopes to match.

In a piece of work where the paper involved represents only 1% of the total cost it is apparent that the cost of the paper itself might fluctuate over a wide range without becoming a serious consideration. Here are three typical cases showing how the cost of paper is related to the cost of booklets.

Fifteen hundred copies of a booklet containing thirty-two pages were to be letterpress printed on 80 pound offset for distribution to manufacturers in a certain industrial field. There was a plate on every page illustrating the effects of certain chemicals on the products made by these manufacturers. There were about twenty-three plates althogether. The cost figures breakdown as follows:

Art work and photographs	12 per cent
Plates and printing, including cover design and alterations	84 per cent
Paper	4 per cent

On this job zinc sulphide pigmented paper was used and there was a difference in paper cost of about 0.5 per cent of the cost of the book. The printer who did this job has stated that in showing this booklet as an example of their work he has sold more jobs than with any other piece of printed matter which he has used in his selling.

In another case 17,000 copies of a booklet containing twenty four pages were printed by deeptone offset on 100 pound paper pigmented with zinc sulphide pigment. This book was to have a wide distribution among designers and sales managers interested in design so that there were a large number of photographs and numerous black plates for which the printer needed a very opaque paper.

Here the cost figures were as follows:

Art work and photographs	28 per cent
Plates and printing	60 per cent
Paper	12 per cent

If the regular offset paper produced by this paper manufacturer had been used instead of the zinc sulphide filled sheet, there would have been a saving of 1 1-3 per cent on the cost of the book. The reproduction of photographs and the type matter in this book are exceedingly good, and the printers feel that it is due in no small measure to qualities of the paper. They are so enthusiastic about this job that they are using it as one of their show pieces.

Another interesting example of the use of pigmented paper was in the reprinting of a booklet where a change was made from the regular 100-pound offset paper of a manufacturer to 80-pound offset in which a zinc sulphide pigment largely replaced the clay filler used in his regular sheet. In this way the 80-pound sheet was made to have approximately the opacity of the 100-pound regular paper, the lighter weight sheet being approximately colored to

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[2] L. L. Brown Paper Co. "Facts about Paper Values".

match their regular paper. There were 10,000 copies of this reprint letter-press printed, each reprint containing 16 pages. The cost figures were as follows:

Art work	22 per cent
Plates and printing	63 per cent
Paper	15 per cent

The difference in cost because of the zinc pigmented paper was less than 2 per cent.

The distribution of this booklet was in small lots, the manufacturer often sending about three copies in a duplex envelope to a distributor. In this case figures on these mailing costs are given, for they are very interesting.

In mailing one booklet in a duplex envelope with a letter the cost is the same, but when three books are mailed in this manner the weight of the old books brings them within the zoning law so that from New York it would cost 8 cents to Philadelphia, 11 cents to Chicago and 15 cents to the West Coast, whereas with three books printed on paper pigmented with zinc sulphide pigment, the cost would be 6 cents to any place in this country.

There were also many cases where larger quantities of books were shipped out parcel post for distribution in various trading areas. When weights for parcel post between New York and Chicago are considered it is found that six new books containing zinc sulphide pigment weigh 10 ounces, six old books 13 ounces. They take the same rate of 11 cents. Twenty-five new books weigh 2 pounds 9 ounces, twenty-five old books 3 pounds 6 ounces. Here there is a difference in postage between 22 and 27 cents, and the saving in postage increases as the bulk of shipments becomes greater.

So you will see that there are cases where a careful buyer will find that he can enjoy the excellent qualities of the zinc sulphide pigmented papers and more than offset the extra cost of the paper by the savings in postage.

The papers used for the printing jobs just mentioned were all offset types of various basic weights and Zinc Sulphide Pigment-19 was the opacifier. In the last instance a 100 pound paper of regular production was compared with an 80-pound pigmented (opaque) sheet and in this connection it may be of interest to compare the analytical data on these papers before printing.

Sample	Basis Weight 25x38/500	Ash	ZnS Pigment—19	Contrast Ratio	Brightness
Unpigmented	101	7.7 per cent	0.0 per cent	91.8	85.6
Pigmented	77.8	8.4 per cent	7.3 per cent	95.2	78.9

The retention of zinc sulphide pigment in this run was about 65 per cent without the use of a closed white water system. You will note that the sheet, pigmented with zinc sulphide pigment is light weight for an 80-pound paper while the unpigmented paper is slightly heavy for a 100-pound sheet. Nevertheless, the use of 7.3 per cent of Zinc Sulphide Pigment-19 has satisfactorily matched the opacity of the heavier paper. The offset papers just discussed represent fairly heavy weight papers whereas the medium and light weight papers such as bonds, bread wrap, catalog, envelope stock, etc., offer a most interesting field for the application of opaque pigments.

Some of our most interesting commercial runs have been with bond papers, either sulphite, rag, or combinations of the two. In these cases the paper manufacturer has solved problems such as obtaining better color and brightness together with an increase in opacity; or perhaps he has been asked by his customer to increase the opacity of a 10-pound bond sheet so that it will make an improved letterhead. Again it may be a sheet where less strike through is sought when it is printed or ruled.

Problems of this kind lend themselves to solution readily through the use of opaque pigments, as is illustrated by the following data showing the results of actual commercial runs.

Sample	Basis Weight 17x22/500	Ash per cent	ZnS Pigment—20 per cent	Contrast Ratio	Brightness
TEST MS-1185					
Unpigmented rag stock	15.8	.66	...	63.5	70.8
Zinc sulphide pigmented rag stock	16.3	4.8	4.2	81.5	76.9
TEST MS-1090					
Unpigmented rag-sulphite stock	16.2	.58	...	69	68.1
Zinc sulphide pigmented rag-sulphite stock	16.5	5.7	5.9	83	71.9
TEST MS-1225					
Unpigmented rag-sulphite 9-pound stock	9.2	.8	...	49	61.4
Zinc sulphide pigmented rag-sulphite 9-pound stock	8.6	5.6	4.7	62.5	65.1

Retention approximately 67 per cent.

The history of the developments leading to the use of pigments in paper records that the users of light weight catalog papers were among the first to seriously consider such a sheet. The mail order people wanted to reduce mailing costs and saw the possibilities of light weight sheets with more than the usual opacity. This has led to several investigations of zinc sulphide pigments for this purpose. The following data shows what occurred in one case.

Sample	Basis Weight 25x38/500	Ash per cent	ZnS Pigment—19 per cent	Contrast Ratio	Brightness
TEST MS-1052					
Clay pigmented 25-pound sheet	25.8	10.5	...	85	59.0
Clay-ZnS pigmented 25-pound sheet	25.9	11.9	6.9	92	59.5

The next case of pigmented paper to be mentioned involves its use with food products. It is the custom nowadays to wrap food products in units rather than sell in bulk, whenever it is possible. Bread is no exception. It is practically all wrapped in some kind of a waxed paper wrapper as it comes to the retail store, and to a large extent these waxed wrappers are filled with opaque pigments, since paper containing ordinary pigments does not retain its opacity when treated with molten wax Zinc sulphide pigments, on account of relatively high maintenance of opacity when mixed with oils and waxes, are especially valuable for opaque bread wrap manufacture.

The following data gives a comparison between a pigmented waxed bread wrap containing about 2 per cent zinc sulphide Pigment-20 and an unpigmented waxed bread wrap of approximately the same weight:

TEST MS-1131

Sample	Basis Weight 24x36/480 Waxed	Ash per cent	ZnS Pigment—20 per cent	Contrast Ratio Waxed	Contrast Ratio Dewaxed	Brightness Waxed	Brightness Dewaxed
Unfilled	34.0	.60	none	31.0	58.5	51.5	74.6
Pigmented	35.2	2.44	2.0	43.6	65.6	58.7	73.3

This represents only a moderate percentage of pigment present and it is not at all unusual to find cases where appreciably more pigment is used.

The several types of paper just mentioned represent some of the more familiar application of zinc sulphide pigments in paper. None the less interesting, however, are the special applications such as absorbent papers to be impregnated with resin and made into panel boards. Then there are fruit wraps, where the paper should contribute toward the keeping qualities of the packed fruit. We believe that the germicidal properties of zinc sulphide pigments offer an agent to help in the solution of this problem where even the retarding of spoilage for a week's time is of tremendous interest.

Mention has already been made of the use of zinc sulphide pigments in paper for one type of food container, namely, that for bread, but this type of application does not

end here. We are now finding these pigments used for coating paper pie plates in order to obtain a substitute for the familiar tin plate which had to be returned to the baker after every trip out. A perfectly white paper plate makes a most attractive container for this purpose.

One more rather unusual application of zinc sulphide pigment in paper is in a three-ply sheet for outdoor signs. The middle ply is black paper to prevent shadows the signs are printed on both sides and the use of opaque pigment helps to cover the black, thus greatly improving the external appearance of the sheet.

Of the many fields where it seemed that zinc sulphide pigments might have an application, one of the least promising was thought to be that for boxboard. However, the manufacturers of lined boards have taken an active interest in zinc sulphide pigments. They find these opaque pigments help to give a better color, they help in substituting cheaper raw materials for some of the better pulps now used. There are also indications that the boxboard manufacturer can thus use a lighter weight of liner.

In the applications referred to above the zinc sulphide pigments have been used in the beater, but where it is desired they may be introduced as a slurry at the head of the machine. No difficulty is experienced in dispersing them and a convenient method is to sprinkle the dry pigment over the contents of the beater 15 or 20 minutes before the beater is dropped. While there is no question but that a closed white water system affords ideal auxiliary equipment for introducing opaque pigments in paper, and we have reports of 85 to 95 per cent retention with such installations, still we find plant after plant where even on a short run the retentions calculate from 50 to 70 per cent. Naturally means for raising these figures are being sought and undoubtedly improvements will be made.

One angle of paper manufacturing to which we have not made reference yet is for coatings. Not only are coatings used in some of the better papers where quality printing and illustration is desired, but with the tendency for better illustrations in large run magazines, the latter offer a substantial field for these products. The zinc sulphide pigments contribute both to opacity and color for this type of work.

We welcome the opportunity to work with any paper manufacturer who has a specific problem pertaining to the art of using opaque pigments. It is all relatively new and there is much to be learned by all of us.

Cellulose Chemistry Division to Meet

The Division of Cellulose Chemistry of the American Chemical Society at its meeting to be held March 28 at St. Petersburg, Fla., will consider the following papers:

Composition of Woods Found in the Miocene Sands of California, by R. L. Mitchell and Geo. J. Ritter.

Experiments in the Utilization of Sawdust as a Plastic Material, by E. Bateman and J. P. Hohf.

Chemical Purification of Ramie, by P. M. Horton and G. L. Carter.

The Removal by Cotton of Sulphuric Acid from Solutions in Organic Acids by T. F. Murray, Jr., W. O. Kenyon and H. LeB. Gray.

The Chemistry of Wood, V. Water Soluble Polysaccharide of European Larch, by Floyd C. Meterson, Matthew Maughan, and Louis E. Wise.

Chemical Nature of Dyestuffs in Pine Wood Pulps, by G. M. Kuettel, C. E. Curran and M. W. Bray.

C. E. Curran is chairman of the executive committee and W. O. Kenyon, is secretary.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the following elections to membership:

Lawrence Killam, President and managing director, British Columbia Pulp and Paper Company, Vancouver, B. C., since 1926, is a 1907 graduate of Mt. Allison University and in 1930 received his Doctor of Laws degree from McGill University. From 1907 to 1908 Mr. Killam was associated with Canadian Fairbanks Morse Company. From 1908 to 1913 he was professor of mechanical engineering at Mt. Allison University in New Brunswick and from 1913 to 1920 he held a similar position at the University of British Columbia. In 1920-1921 he was president and managing director of the Inverness Railway and Coal Company. Mr. Killam is Chairman of the Pacific Section of the Technical Association of the Pulp and Paper Industry.

Fred E. Alsop, manager of Van Waters and Rogers, chemical jobbers, Portland, Ore., was formerly with Mailliard and Schmidt, chemists.

Arnold J. McAneny, student, New York State College of Forestry, Syracuse, New York is a 1926 graduate of Williams College and was formerly a paper inspector at the St. Anne Pulp and Paper Company, Beaupre, P. Q.

Spencer W. Noble, assistant chemist, Georgia Pulp and Paper Laboratory, Savannah, Georgia, is a 1931 graduate of Alabama Polytechnic Institute and was formerly employed by O. B. Andrews, Chattanooga, Tenn.

Henry A. Paterson, control superintendent, Mersey Paper Company, Ltd., Liverpool, N. S., is a 1925 graduate of the University of Glasgow. Mr. Paterson was formerly employed by the British Thomson-Houston Company, Rugby, England and was research engineer for the Abitibi Power and Paper Company, Iroquois Falls, Ontario, Canada.

Herbert T. Randall, engineer, Champion Coated Paper Company, Hamilton, Ohio, is president of the American Pulp and Paper Mills Superintendents Association and is the official representative of that organization in the Technical Association.

Ralph F. Taber, director of tests, Remington Rand, Inc. and general manager of Smith-Taber is a 1918 graduate of the Carnegie Institute of Technology.

Samual R. Williamson, assistant superintendent technical control, Bogalusa Paper Company, Bogalusa, Louisiana is a 1929 graduate of Tulane University, La., and was formerly with the United States Steel Corporation, Birmingham, Alabama.

Kalamazoo Valley TAPPI Meets

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry met at the Columbia Hotel, Kalamazoo, Mich. on February 28, 1934. There were about thirty-five present.

J. Howard Stawell talked on the subject, "The Engineer's Contribution to Modern Industry."

L. C. Currier of the Sorg Paper Company, Middletown, Ohio was present and gave a demonstration of the Currier size tester which he recently invented.

Interesting reports of the national convention in New York were given by those who attended.

The following officers were elected for the coming year: Carl C. Schneider of the Hawthorne Paper Company was elected chairman, Harold Annis of the Allied Paper Mills, vice-chairman and R. L. Barton of the Michigan Paper Company, Plainwell, Michigan was elected secretary-treasurer.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Alkaline Process

Black Liquor Treatment. George A. Richter assignor to Brown Co. U. S. pat. 1,906,886 (May 2, 1933).—Spent cooking liquor containing only sodium compounds including sodium-sulphur compounds is smelted to produce a completely water-soluble smelt containing sodium carbonate as one constituent; the smelt is dissolved in water, and sodium carbonate is crystallized out and separated.—A. P.-C.

Kraft Waste Heat Boilers. L. F. Bunde. Paper Ind. 15: 75-78, 137-139 (May, June, 1933).—A discussion of their value as steam generators, giving a comparison of the spray, dry powder, and rotary and disk systems and showing more particularly how they may be improved to increase their efficiency as steam generators.—A. P.-C.

Destructive Distillation of Black Liquor. Ralph W. Kumler. U. S. pat. 1,900,506 (March 7, 1933).—The liquor is mixed with hot black ash to assist in removal of moisture from the black liquor and the dried mixture is destructively distilled. Various details of procedure are described.—A. P.-C.

Recovering Chemicals from Sulphate Black Liquors. Charles L. Wagner and Horace Freeman assignors to J. O. Ross Engineering Co. U. S. pat. 1,900,320 (March 7, 1933).—The material is destructively distilled, the combustible products of the distillation are consumed and a fused pool of non-combustible products is formed and accumulated until reduction is substantially complete. An apparatus is described.—A. P-C.

Sulphate Black Liquor Offers Some Striking Problems to the Analyst. R. H. Stevens and R. C. Wooldridge. Paper Ind. 15: 256-257 (Aug., 1933).—A study of various methods of black liquor analysis showed that Oeman's theory that alkali in white liquor is consumed by the addition of black liquor is not borne out. Determination of active alkali by precipitation with barium chloride followed by titration of the supernatant liquid gives fairly uniformly high results, probably due either to incomplete precipitation by barium chloride or to a progressive hydrolysis of the barium salts.—A. P.-C.

Cellulose Turpentine. A. H. Weissner. Farbe u. Lack 1933: 261-262, 269-270.—The extraction of sulphate and sulphite turpentines and of tall oil are briefly reviewed.—C. J. W.

Thermal Problems in the Recovery of Alkalies in the Production of Straw Cellulose. B. Gorbovskii. Bumazhnaya Prom. 12, No. 4: 24-30 (1933).—Problems for the experimental investigation of fuel economies in the recovery of alkalies from black liquor are discussed.—C. J. W.

The Harmful Effect of Waste Liquor from Pulp Mills Upon Fish Life. F. W. Klingstedt. Finnish Paper and Timber J. 15, No. 16: 616, 618, 620-621 (Aug. 31, 1933).—The problem as to whether waste liquor is destructive to fish life is discussed and a few examples are given where harmful effects have been determined. Rosin soap is considered a specially harmful constituent and a simple method is outlined according to which small quantities of rosin in water can be detected. Rosin soap under certain conditions will cause a strong foaming in river water.—C. J. W.

Digesting Processes—Miscellaneous

Pulping Process. Uel S. McMillan assignor to McMillan Fireproof Fibre Co. U. S. pat. 1,913,607 (June 13, 1933).—Logs are charged into a hopper which is reciprocated over a table having openings through which project rapidly revolving brushes made of steel wire. The defiberized wood is conveyed by means of an air current into a horizontal, rotating drum within which is (preferably) one or a number of loose metal rolls of the same length as the drum. The material is treated in the drum either with hot water, to give a high grade groundwood, or with an acid or alkaline liquor to give sulphite, soda or sulphate pulp.—A. P.-C.

Process and Apparatus for the Continuous Pulping of Fibrous Material. Harry L. Wollenberg assignor to Longview Fibre Co. U. S. pat. 1,915,812 (June 27, 1933).—Wood chips and cooking liquor are fed continuously to the lower end of a vertical, relatively long treatment chamber and are withdrawn from the top. Both at the inlet and outlet the material is compressed to form relatively compact masses (as by the use of tapered screw presses of gradually decreasing pitch), which serve as closures to maintain a suitably high pressure inside the chamber. The material inside the chamber is heated either indirectly or by direct injection of steam.—A. P.-C.

Process and Apparatus for Digesting Pulp. Ralph H. McKee. U. S. pat. 1,905,731 (April 25, 1933).—Heating is effected by injecting steam at a number of points around the circumference of the cylindrical portion of the digester; or by indirect heating by jacketing the same portion of the digester and passing steam through the jacket; or by an electrical induction device, located at approximately the same portion of the digester.—A. P.-C.

Liquor Circulating System for Pulp Digesters. Oscar A. Wiren. U. S. pat. 1,904,810 (April 18, 1933).—The circulation system is provided with a centrifugal pump having one or more spiral-shaped suction chambers arranged so as to permit the liquor, before entering the impeller, to acquire a tangential component of velocity. The liquor is conveyed to the pump through two or more suction pipes which are connected with the pump by means of a branched pipe having a number of branches corresponding to the number of suction pipes; the total cross section of the branches just ahead of the junction point is equal to that of the pipes just after the junction point.—A. P.-C.

Decomposing Plant Fiber Material By Cooking With Phenolates. Otto H. Strecker assignor to the firm Otto C. Strecker. U. S. pat. 1,902,916 (March 28, 1933).—In cooking material such as wood chips to obtain a relatively pure cellulose, the content of free phenol or the like is from time to time during the boiling process at least about half as great as the amount corresponding to the alkali content of the phenolates present.—A. P.-C.

Pulping Process. Henry Dreyfus. U. S. pat. 1,903,-

962 (April 18, 1933).—Pulp is made by treating wood, plants, etc., with chemical agents at a high temperature and under high pressure created at least in part by the presence of inert gases or vapors.—A. P.-C.

Forced-Circulation Cooking Process. Arnold Brobek. U. S. pat. 1,914,073 (June 13, 1933).—Liquor is drawn as uniformly as possible from the lower part of the digester; most of this liquor is passed through a heater and reintroduced into the upper part of the digester, while the remainder is re-introduced into the lower portion of the digester without having been heated.—A. P.-C.

Pulping Process. Daniel Westad. Brit. pats. 375,821 and 375,873, June 30, 1932; U. S. pat. 1,904,894 (April 18, 1933)—Wood chips are impregnated with the cooking liquid under high pressure and at a relatively low temperature before subjecting it to digestion at high temperature.—A. P.-C.

Wood Pulping Method. Henry K. Benson. U. S. pat. 1,896,344 (Feb. 7, 1933).—Wood chips are heated with progressively lesser spent reactive liquor, in multiple-batch stages, and the chips are subjected to mechanical abrasion in intermediate stages.—A. P.-C.

Utilization of Microbial Processes in Paper Industry. P. A. Marmuizhev. Bumazhnaya Prom. 12, No. 6: 21-24 (1933).—A discussion of the initial results of Rokitzkaya's work on the extraction of free cellulose from straw by microorganisms of cow manure and the industrial advantages of production of paper from cellulose obtained by microbial processes.—C. J. W.

Preparation of Cellulose from Straw by Microbial Method. A. I. Rokitzkaya. Bumazhnaya Prom. 12, No. 6: 25-32 (1933).—Experiments in the separation of free cellulose from rye straw by selective microbiological decomposition of lignin with various cultures are described. The following process gave the most conclusive results. Free cellulose was obtained by the action of enzymes of cow manure on disintegrated rye straw for 21-42 hours at 37 deg. C., trituration of the product with water in a mortar, filtering the pulp from the amorphous precipitate of decomposed matter through a fine metal sieve and bleaching with a little bleaching powder. The product is similar to chemical cellulose except that its white, long ribbon-like fibers are covered with filamentous frieze.—C. J. W.

Microbiological Production of Cellulose. M. Robinov Bumazhnaya Prom. 12, No. 6: 32-34 (1933).—*Lanzites sepiaria, Tranctas pini* and *Polyporus* are some of the varieties of fungi which in nature destroy lumber and trees by decomposing the lignin but not the cellulose and are recommended for use in experimental microbiological pulping of wood for the production of paper.—C. J. W.

Beating

Hydration of Cellulose in the Beating Process. James Strachan. Paper Maker & Brit. Paper Trade J. 85: TS113-114 (June, 1933).—Technical and practical evidence is presented to show that the fibrillation theory of specific external surface is adequate and sufficient to explain all the main phenomena associated with hydration.—A. P.-C.

Relation Between Hydration Capacity and Pentosan Content of Soft Wood Pulps. George H. Young and R. N. Rowland. Paper Trade J. 97, No. 15: 44-46 (Oct. 12, 1933).—The relationship between swelling tendency and pentosan content of soft wood pulps is approximately linear. The results obtained tend to substantiate the theory that adsorption is a function of secondary valence forces in the cellulose micelle.—A. P.-C.

The Cellulose-Water Relationship in Paper Making. W. Boyd Campbell. Dept. Interior, Canada, Forest Service Bull. 84, 52 p. (1933).—This is a more detailed explanation of the author's previous publications on the subject (*Pulp Paper Mag. Can.* 29: 185-190 (1930); *Paper Trade J.* 95, No. 8: 29-33 (1932)).—A. P.-C.

Effect of Wetting-Out Agents on the Hydration and Strength of Wood Pulp. H. Ainsworth Harrison. World's Paper Trade Rev. Tech. Conv. No.; 27 (March, 1933).—Kraft pulp beaten for a definite time in presence of a wetting-out agent has a lower Schopper-Riegler wetness, burst factor, and breaking length and higher tear factor than the same pulp beaten for the same period without wetting-out agent, but has practically the same physical characteristics as the same pulp beaten to the same Schopper-Riegler wetness in absence of the wetting-out agent, showing that the latter merely retards the development of wetness without impairing strength at the wetness attained.—A. P.-C.

Rod Mill. John Traquair assignor to Mead Research Engineering Co. U. S. pat. 1,914,184 (June 13, 1933).—Stock is introduced continuously at both ends of the mill, and is discharged off continuously through slots located around the periphery of the sheel midway between the ends. This construction permits of treating stock at consistencies of up to 30 per cent.—A. P.-C.

Pulp Hydrator. Edward B. Fritz. U. S. pat. 1,913,540 (June 13, 1933).—This is an improvement on the Fritz hydrator covered by U. S. pats. 1,528,201, 1,556,926 and 1,558,927. It provides for one or more apertures through the stationary disks to permit escape of free air from the stock, the openings in successive disks being positioned at different points so as not to form a direct line of descent for the stock.—A. P.-C.

Beater. Percy A. Jackson assignor to American Writing Paper Co. U. S. pat. 1,912,341 (May 30, 1933).—In order to facilitate circulation, the backfall and cover over the latter are designed so as to direct the stock away from the discharge side of the beater roll.—A. P.-C.

Refining Engine. William G. Fraser. U. S. pat. 1,928,052 (Sept. 26, 1933).—Two conical refining units, comprising rotors and coacting shells, are mounted on the same shaft, and means are provided for adjusting the two shells simultaneously or independently.—A. P.-C.

Notes On Beaters. H. L. Muller. Papeterie 55; 886-890 (Sept. 10, 1933).—A brief mathematical discussion showing that large beaters designed along the same lines as the old small-capacity beaters necessarily consume more power per ton of stock beaten.—A. P.-C.

Cellulosic Material and Process of Producing the Same. Fernando S. Vivas assignor to Safety Products, Inc. U. S. pat. 1,909,193 (May 16, 1933).—Cellulose pulp is beaten in a solution containing 12 oz. magnesium chloride, 12 oz. magnesium sulphate, 12 oz. sodium bicarbonate, 2 oz. borax and 2 oz. sodium chloride per gallon, and is shaped into desired form and dried.—A. P.-C.

Refiner. Jean Lamassiaude. Fr. pat. 743,949 (Jan. 5, 1932).—In a conical refiner, both the shell and the plug are formed in the shape of a hyperboloid of revolution, and the knives are placed along the generators. This permits of using straight instead of curved knives and considerably reduces the power consumption.—A. P.-C.

Attritional Versus Beater and Jordan Refining. Roger B. Brown. Paper Trade J. 96, No. 23: 42-44 (June 8, 1933).—The need for better refiners is indicated and the difference in principle of refining by attritional type units and by conventional beaters and jordans is outlined.—A. P.-C.

Beater. Edouard Héry. U. S. pat. 1,920, 392 (Aug. 1, 1933).—The bed plate is pivotally mounted above the horizontal plane passing through the axis of the roll. The pivot center is located at the intersection of the perpendicular erected on the cylinder radius passing through the center of the friction surface of the bed plate at a distance from the center of the roll (in the direction of the bed plate) equal to half the length of the maximum wear of the bed plate, and of the perpendicular erected on the middle point of the line joining the extreme positions of the center of the bed plate.—A. P.-C.

Comparison Between Flint Pebbles and Porcelain Balls as a Means of Hydrating in the Pebble Mill Test. II. F. C. Peterson and D. C. Beyer. TAPPI Papers 16: 285-288 (June, 1933); Paper Trade J. 97, No. 4: 37-40 (July 27, 1933).—Porcelain balls yield more uniform and reproducible results than flint pebbles, cause considerably less increase in the ash content of the pulp, and can be produced in large quantities of uniform physical characteristics. In order to obtain maximum Mullen test, milling must be continued for 20 min. longer with porcelain balls than with flint pebles.—A. P.-C.

Conical Refiner. Walter H. Hermann assignor to The Herman Manufacturing Co. U. S. pat. 1,908,842 (May 16, 1933).—The shell liner is constructed in sections which are adapted to be expanded after placing in position in the shell. Expansion is obtained by means of a toggle-lever construction consisting of a pair of plates linked together and disposed at a substantial angle to each other prior to expansion. The actual expansion is effected by means of bolts which project through the shell and at the same time hold the liner against displacement.—A. P.-C.

Beater. William T. Doyle assignor to Sturtevant Mill Co. U. S. pat. 1,905,161 (April 25, 1933).—A so-called "hammer mill" is used instead of the usual beater roll. A straining drum is provided just ahead of the inlet to the "mill" so that the pulp is hydrated at high consistency and the water removed by the straining drum is returned to the stock discharged from the "mill" so as to facilitate circulation.—A. P.-C.

Extractor for Beating Engines. Henry J. Andrews assignor to Black Clawson Co. U. S. pat. 1,903,526 (April 11, 1933).—Two or more beaters are placed side by side, each being provided with a continuous extractor from which the extracted stock is delivered into a common trough. The latter contains a series of worm conveyors, one for each beater, so that the stock is delivered automatically and continuously from each beater to the next, and from the last beater to a suitable stock chest.—A. P.-C.

Dyes and Dyeing

Paper Dyeing. J. R. Roberts. Paper Ind. 15; 313-315 (Sept., 1933).—A brief discussion of the effect of pH in the dyeing of paper.—A. P.-C.

Coloring in a Fine Paper Mill. H. Gordon McNeil. Pulp Paper Can. 34: 407-409 (June, 1933).—A general discussion.—A. P.-C.

Characteristics of Basic Dyes: Auramine. A. Vanderstichel. Papeterie 55: 625-630 (June 25, 1933). Practical directions are given regarding the technic required in using auramine in paper making.—A. P.-C.

Identification of Colors On Dyed Paper. M. Grundy. Paper Maker & Brit. Paper Trade J. 85:TS102-104 (May, 1933).—A scheme of analysis is given for identifying the dyes used on a sample to be matched, by first ascertaining the type or class of the dye (or dyes) and then identifying the individual dyes. For details, the original article should be consulted.—A. P.-C.

Apparatus for Coloring and Decorating Paper. James D. MacLaurin assignor to Marathon Paper Mills Co. U. S. pat. 1,919,798 (July 25, 1933).—Paper is carried in an upwardly inclined direction past oscillating shafts carrying nozzles for discharging color solution on to the paper.—A. P.-C.

Apparatus for Coloring Paper. Herman Black, William Holmes and Maurice A. Hesse, assignors to Evening American Publishing Co. U. S. pat. 1,905,889 (April 25, 1933).—The patent provides an apparatus for coloring one side or portions of one side of a sheet of paper at the calenders or before it leaves the driers and while it is still moist, in such a manner that the color penetrates into, but not right through, the body of the paper.—A. P.-C.

Sizing

Influence of Stock Temperature and Hydrogen-Ion Concentration On a Kraft Paper Sized With a Special Starch. W. A. Chilson, F. A. Simmonds, P. K. Baird and C. E. Curran. Paper Trade J. 97, No. 14: 39-43 (Oct. 5, 1933).—A modified corn starch sizing increased the bursting, tearing and tensile strength of kraft paper when added to the stuff entering the chest if the pH value of the stock at the head box was 4.4 to 5.5; at a pH of 6.5 only the bursting strength was increased; the air transmission of the paper was unaffected. Variations in the temperature at the head box from 65 deg to 75 deg. F. did not affect the sizing or other qualities of the starch.—A. P.-C.

Effect of Perminal W On the Rate of Water Penetration Through Rosin-Sized Paper. H. Ainsworth Harrison. World's Paper Trade Rev. 99: 1807-1810 (June 16, 1933).—Addition of 5 per cent Perminal W (a wetting-out agent which appears to be an alkylated naphthalene sulphonic acid) to the aqueous bath used in the dry-indicator method of testing the sizing of paper produces a practically instantaneous penetration of the bath through the paper. Time of penetration increases with decrease in the proportion of Perminal W to a limiting concentration of about 0.06 per cent, below which the time of penetration decreases. Addition of 1 per cent sodium chloride to the Perminal W solution has no appreciable effect on the time of penetration.—A. P.-C.

Improved Paper Sizing. Ralph W. Kumler. Paper Mill 56, No. 22: 8, 10, 12 (June 3, 1933).— A brief review of some recent work on sizing and its mechanism, particularly by Strachan, Wieger and Harrison.—A. P.-C.

Rosin Sizing Methods. A. C. Dreshfield. Paper Mill 56, No. 15: 6, 8, 10 (April 15, 1933).—A brief outline of the development of rosin sizing methods concluding with an enumeration of the characteristics and properties that should be possessed by an ideal size.—A. P.-C.

Emulsified Paraffin Wax Sizes. R. M. Cobb, D. S. Chamberlin and B. A. Dombrow. Paper Trade J. 97, No. 10: 35-38 (Sept. 7, 1933).—An emulsifying base (the nature of which is not disclosed) has been developed which makes it possible to produce wax-size emulsions in ordinary paper mill equipment, a hand paddle providing sufficient agitation. The characteristics and advantages of emulsions so prepared are briefly outlined.—A. P.-C.

Contribution to the Knowledge of Rosin Sizing. Harold W. Bialkowsky. Paper Trade J. 97, No. 13: 29-46 (Sept. 28, 1933).—The degree of hydrolysis of dilute termination of cellulose viscosity, showing its superiority sodium resinate solutions, was found to be: 0.54 per cent for a 0.01*N* solution at 30 deg. C.; 4.3 per cent for an *N*/300 solution at 56 deg. C. Commercial pulp fibers have a great tendency to lower the alkalinity of dilute sodium hydroxide solutions. This would indicate that the presence of the pulp fibers forces the hydrolysis of sodium resinate.—A. P.-C.

Analytical and Testing Methods

The Nature and Functions of Hygroscopic Water in Cellulose and Paper. James Strachan. Paper Maker & Brit. Paper Trade J. 85: TS81-82 (April, 1933).—The adsorbed or hygroscopic moisture content of paper or cellulose is determined by the colloidal structure and micelle size of the fibers. Its presence affects such physical properties as pliability, elasticity and printability, such chemical properties as aging and permanence, and paper making processes such as calendering and dyeing. —A. P.-C.

The Currier Size Tester. Anon. Paper Trade J. 97, No. 3: 20 (July 20, 1933).—A brief description of the instrument which measures degree of sizing by the time required for sufficient water to penetrate through the sample and complete an electric circuit.—A. P.-C.

A Dynamic Photoelectric Relative Opacimeter. O. Maass and R. Richardson. Pulp Paper Can. 34: 457-460 (July, 1933).—A description of a new instrument for measuring the transmittance of light through paper. —A. P.-C.

Interpretation of Tests On Paper. J. G. Abel. World's Paper Trade Rev. 99: 867-870, 909-916 (March 24, 1933); Paper Maker & Brit. Paper Trade J. 86; TS157-160 (Aug. 1933).—A discussion of the Schopper tensile test, bursting test, tearing test, folding endurance, tensile stretch and elasticity, sizing degree, porosity, and moisture stretch.—A. P.-C.

Optical Characteristics of Paper. E. S. Bissell. Paper Mill 56, No. 32: 2 (Aug. 12, 1933).—A very brief general discussion.—A. P.-C.

Some Factors Affecting Interweb Adherence of Single Plies Used in Laminated Sheets. R. H. Doughty and P. K. Baird. Paper Trade J. 97, No. 10: 38-39 (Sept. 7, 1933).—A brief study of the factors affecting the magnitude of interweb and intraweb strength of papers and paperboards.—A. P.-C.

Determination of Zinc Sulphate Pigments in Paper. F. A. Steele. Paper Trade J. 97, No. 9: 27-28 (Aug. 31, 1933).—A detailed description of an adaptation of Kolthoff and Pearson's method (*Ind. Eng. Chem. (Anal Edit.)* 4, 147-150 (Jan. 15, 1932)), which, though somewhat tedious, is satisfactory as a control method where the composition of the pigment is known.—A. P.-C.

Capillary Rise of Water in Fibrous Sheets and Possible Applications. F. A. Simmonds. Paper Trade J. 97, No. 10: 40-42 (Sept. 7, 1933).—There is a definite relationship between the time and height of capillary rise of water in strips of certain types of pulp and paper sheets, which can be used as a means of measuring the effective capillary diameter parallel to the upper and lower surfaces of a sheet.—A. P.-C.

Some Factors Relating to the Estimation of Alpha-Cellulose. Adoni Yogananda Swamy and Frank W. Bailey. World's Paper Trade Rev. 99: 1534-1538, 1576, 1578, 1614-1618, 1651-1654, 1692-1697 (May 19 to June 2, 1933); Paper Maker & Brit. Paper Trade J. 85: TS119-128 (June, 1933).—From a critical review of the most outstanding methods that have been proposed for the determination of apha-cellulose, it is concluded that the U. S. Bureau of Standards method is simple, rapid and accurate for practical application. The effects of carbon dioxide, atmospheric oxygen, oven-drying of the sample and over-bleaching were studied.—A. P.-C.

Estimation of Shiviness of Mechanical Pulps. J. L. Somerville. World's Paper Trade Rev. 99: 1335-1338, 1376, 1378 (May 5, 1933): Paper Maker & Brit. Paper Trade J. 86: TS132-135 (July, 1933).—The typical shape of mechanical pulp shives is approximately that of a knife blade, though the cross-section may often be far from parallel-sided; and its typical position in a sheet of paper is with the main planes lying parallel to the paper surface. The method recommended consists essentially of concentrating the shives into a fraction of the original pulp, making this fraction into a thin sheet of paper and directly counting and measuring the main planes or projected areas of the shives present. The technic is described in detail and the accuracy and usefulness of the method are discussed.—A. P.-C.

Pulp Testing and Specification Investigation. H. C. Schwalbe. Paper Trade J. 97, No. 11: 33-42 (Sept. 14, 1933).—Extensive physical and chemical tests on the same lot of pulp, carried out independently by several laboratories are presented and the causes of the discrepancies are discussed from the standpoint of obtaining the uniformity required to establish satisfactory pulp specifications. —A. P.-C.

Cellulose Viscosity and Its Use in Mill Control. N. W. Coster. Pacific Pulp Paper Ind. 7, No. 6: 15-17 (June, 1933).—A brief discussion of the value of the determination of cellulose viscosity, showing its superiority over any other known chemical test for controlling deggradation of fibrous materials.—A. P.-C.

Miscellaneous

Cellulose Research at the Norwegian Institute of Technology During 1931-1932. S. Schmidt-Nielsen. Papir-J. 21: 21-23, 32-34, 41-43 (1933); C. A. 27: 2573.—A lecture, reporting studies of hypochlorite bleaching of sulphate and sulphite pulp and of the Brown cooking process.—C. J. W.

The State of Electrical Charge of Paper. M. Uetzkii. Bum. Prom. 11, No. 11: 60-62 (1932); C. A. 27: 1751.—The electrical charge of paper caused by friction in the machine processing depends on the moisture content of the pulp and is gradually lost in storing. Cigaret paper becomes recharged in the process of casing and stuffing.—C. J. W.

Experimental Grinder in the Paper Technology Department of the Polytechnical University at Helsingfors. A. J. Brax. Finnish Paper and Timber J. 15, no. 7: 282-283 (Apr. 25, 1933).—Detailed description of the experimental grinder constructed by U. Albrecht.—C. J. W.

The Department for Experimental Pulp Testing in the Central Laboratory at Helsingfors. G. K. Bergman. Finnish Paper and Timber J. 15, No. 7: 300-301 (Apr. 25, 1933).—Description of the new pulp testing department of the Central Laboratory at Helsingfors with several illustrations of the equipment.—C. J. W.

Forestry Meeting, Berlin, December 12-15, 1932. Papierfabr. 31, No. 15: 236-240 (April 9, 1933).—The following papers were given: New processes in the manufacture of paper, New uses of wood cooked with acids, Decomposition through pressure percolation, Distillation of wood into gases, and several others concerned directly with forestry.—J. F. O.

New Group Classification of Patents in the German Patent Bureau. Papierfabr. 31, No. 17: 262-63 (April 23, 1933).—Description of the classifications.—J. F. O.

Annual Meeting of the German Pulp and Paper Association at Berlin, December 2 and 3, 1932. Papierfabr. 30, No. 50: 716-18 (Dec. 11, 1932).—Reports of the various officers and committees, general reports, etc. —J. F. O.

Old Paper Mills in the Province of Brandenburg. Fr. von Hössle. Papierfabr. 64, No. 1: 1-4; No. 2: 15-20 (Jan. 1, 8, 1933).—The history of old paper mills.—J. F. O.

Progress in Colloid Chemistry. Rudolf Lorenz. Zellstoff Papier. 13, No. 3: 101-105 (March, 1933).—By means of 42 references in the literature on colloid chemistry in the pulp and paper industry, in various countries, the author gives a report by abstracting the important facts from each article.—J. F. O.

Dendtritic Growths in Paper. James Strachan. Paper Maker & Brit. Paper Trade J. 86: TS 49-52 (Feb. 1, 1933).—An explanation of the cause and mechanism of the development of dendritic growths in paper—A. P.-C.

Measuring the Hardness of Rubber. Pierre Bultel. Pulp Paper Can. 34: 278 (April, 1933).—A comparison of the Lhomme & Argy and of the Pusey & Jones durometers with three different samples of rubber showed that the former gave results that were from 5 per cent higher than the latter with the hardest sample to 15 per cent higher with the softest; the difference is attributed to differences in the operation of the two instruments, and the Lhomme & Argy is considered to be the more rational of the two.—A. P.-C.

Graphite. H. N. Bassett. Paper Maker & Brit. Paper Trade J. 85: TS 21-22 (Dec. 1, 1932).—A brief discussion of its lubricating properties and characteristics.—A. P.-C.

Thirty Years Development in Design of Paper Mills. John Stadler. Pulp Paper Can. 34: 215-218 (March 1933).—A brief sketch of progress accomplished in the last 30 years in the construction and development of newsprint mills.—A. P.-C.

Activities of the Pulp and Paper Division of the Forest Products Laboratories of Canada at Montreal. James H. Ross. Pulp Paper Can. 34: 231-234 (March, 1933).—An address dealing more particularly with the work carried out during the last 2 years.—A. P.-C.

The New Langerbrugge Mill of the "Papeteries de Belgique." Pierre Gosselin. Papeterie 55: 229-239 (March 10, 1933).—A description of the mill.—A. P.-C.

Titaghur Paper Mills. Anon. World's Paper Trade Rev. 98: 1191-1196, 1234 (Oct. 14, 1932).—A history of their development with a brief description of their equipment.—A. P.-C.

Norway's Paper Enterprise. N. E. Deane. World's Paper Trade Rev. 98: 1012-1022 (Sept. 30, 1932).—A description of the Union Co.'s news print mill at Skotfos.—A. P.-C.

Shories of British Paper Making. Moffat and Caldercruix Mills. World's Paper Trade Rev. 98: 1430-1434 (Nov. 4, 1932).—A. P.-C.

Thames Board Mills. World's Paper Trade Rev. 98: 1740-1744 (Dec. 2, 1932).—A brief description.—A. P.-C.

Aylesford Paper Mills. World's Paper Trade Rev. 1812, 1814 (Dec. 9, 1932).—A brief description of recent developments.—A. P.-C.

Chemists of Japan Make Contribution to Paper Making Research. Louis E. Wise. Paper Ind. 15: 20-22 (April, 1933).—A brief review of researches relating to pulp and paper making carried out in Japan during the last few years.—A. P.-C.

United States Patents on Paper Making. First Quarter, 1933. Clarence J. West. Paper Trade J. 96, No. 16: 25-27 (April 20, 1933).—A list in numerical sequence of patents relating to pulp and paper making issued at Washington during Jan., Feb. and March, 1933.—A. P.-C.

Simplified pH Control. W. R. Kenny and A. B. Reed. Paper Ind. 14: 854-856 (March, 1933).—A brief discussion of its fundamental principles and methods of application.—A. P.-C.

Cut-Off Mechanism. Karl Sieg assignor to Samuel M. Langston Co. U. S. pat. 1,897,687 (Feb. 14, 1933).—The invention provides improved mechanism for securing a travel of a board-cutting knife at the same speed as the sheet, even though the time period of the cycle of movement of the knife be varied to cut longer or shorter sections from a sheet travelling at any given speed. Either the total cycle time or the relative rates of speed in the cycle may be adjusted while the machine is running, and making one of the adjustments automatically makes the other. Two sets of elliptical gears operating in series are used, and one pair may be adjusted relatively to the other so that their effects may be additive or may counteract each other.—A. P.-C.

Slitting Device. Robert McC. Johnstone assignor to Cameron Machine Co. U. S. pat. 1,900,183 (March 7, 1933).—In score-cut slitters for dividing a sheet into very narrow strips or ribbons, the cutters are mounted in pairs, each pair being on a single lever. In order to overcome difficulties arising from uneven wearing of the two cutters, an equalizer consisting of a tiltable member is introduced, whereby both slitters engage the backing roll, whether the slitters are of equal or unequal diameter.—A. P.-C.

White Water Eccentricities. C. M. Baker. Paper Trade J. 96, No. 13: 31-34 (March 30, 1933).—Attention is drawn to some unusual problems that arise in white water utilization and to their solution.—A. P.-C.

White Water Utilization. H. Phillips. Paper Mill 56, No. 4: 4, 17; No. 6: 16 (Jan. 28, Feb. 11, 1933).—A brief discussion of the relative merits, fields of application and future possibilities of chlorine and chloramine for checking and preventing slime formation in paper mill white waters.—A. P.-C.

Paper Making Composition. George A. Richter, assignor to Brown Co. U. S. pat. 1,891,730 (Dec. 20, 1932).—A paper-making composition comprises only the separated and cleaner long fiber fraction of a cellulose pulp of the character of preliberated wood pulp mixed with gelatinized cellulose.—A. P.-C.

Paper Mill "Shuts." T. Tidbury. World's Paper Trade Rev. 99: 95-98, 138-144 (Jan. 13, 1933); Paper Maker & Brit. Paper Trade J. 86: TS58 (Feb., 1933).—A discussion of the causes of mechanical or power breakdowns that cause cessation of paper manufacture (as apart from the stops arising from clothing and purely paper making troubles), their effect on production, and cure.—A. P.-C.

Notes on Paper Mill Lighting. J.D.R. Paper Maker & Brit. Paper Trade J. 86: TS60-61 (Feb. 1, 1933).—A brief discussion of the essentials of proper lighting.—A. P.-C.

Pipe Resistance to Pulp Flow With Friction Losses at Various Densities. O. K. Graef. Paper Ind. 15: 26-28 (April, 1933).—A brief review of information at present available on the flow of paper pulp suspensions through pipes.—A. P.-C.

Vacuum Pumps. Willis E. Williams. Paper Mill 55, No. 52: 4-5 (Dec. 24, 1932).—A brief outline of recent improvement in modern cycloidal gear pumps ("Roots blower"),—A. P.-C.

Method of Producing Dry Size. Frank M. Williams. U. S. pat. 1,908,716 (May 16, 1933).—Size suitable for use after dispersion in cold water is prepared by grinding rosin with a saponifying agent such as dry caustic soda at a temperature below the softening point of the rosin.—A. P.-C.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 10, 1934

CIGARETTE PAPER

American Tobacco Co., Pr. Roosevelt, Havre, 200 cs.; De Manduit Paper Corp., by same, 153 cs.; P. J. Schweitzer, Excambion, Marseilles, 5 cs.; Rohner Gehrig & Co., Scanpenn Gdynia, 48 cs.; Standard Products Corp., San Pedro, Havre, 17 cs.

WALL PAPER

———, Pr. Roosevelt, Havre, 9 cs.

PAPER HANGINGS

Dodman Wallpaper Co., Adriatic, Liverpool, 4 bls.; W. H. S. Lloyd & Co., Amer. Banker, London, 4 cs.

NEWSPRINT

Perkins Goodwin & Co., New York, Hamburg, 70 rolls; ———, Stavangerfjord, Oslo, 707 rolls; Lunham & Reeve, Inc., Scanpenn, Helsingfors, 162 rolls; Jay Madden Corp., by same, 611 rolls; Jay Madden Corp., Vancouver, Bremen, 133 rolls, 302 bls.

PRINTING PAPER

E. Dietzgen & Co., New York, Hamburg, 2 cs.; E. Dietzgen & Co., Black Eagle, Rotterdam, 28 cs.; Ozalid Corp., by same, 27 cs.; P. C. Zuhlke, Westernland, Antwerp, 26 cs.; International F'd'g Co., J. Jadot, Antwerp, 3 cs.; Oxford University Press, Adriatic, Liverpool, 4 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Berengaria, Southampton, 50 bls., 6 cs.; H. Reeve Angel & Co., Inc., Ascania, Southampton, 15 cs.

TRANSFER PAPER

Weiss Forwarding Co., New York, Hamburg, 5 cs.; Atlantic F'd'g Co., Washington, Hamburg, 22 cs.

DECALCOMANIAS

Sellers Transportation Co., New York, Hamburg, 5 cs.

TISSUE PAPER

Jay Madden Corp., Scanpenn, Helsingfors, 39 bls., 9 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Westernland, Antwerp, 22 cs.; Globe Shipping Co., Washington, Hamburg, 10 cs.

METAL COATED PAPER

F. J. Schleicher, Washington, Hamburg, 1 cs.; Taub Hummell & Schnall, by same, 1 cs.

PHOTO PAPER

American Express Co., New York, Hamburg, 30 cs.

PARCHMENT PAPER

Bendix Paper Co., New York, Hamburg, 5 cs.

DELCALCOMANIA PAPER

B. F. Drakenfeld & Co., Adriatic, Liverpool, 32 cs. (duplex); B. F. Drakenfeld & Co., by same, 14 cs. (simplex).

WRITING PAPER

D'Orsay Perfumery, Inc., Washington, Havre, 5 cs.; Phoenix Shipping Co., by same, 1 cs.

LITHO PAPER

General Printing Ink Corp., Pr. Pierce, Hong Kong, 20 cs.

STRAW PAPER

American Express Co., Pr. Roosevelt, Hamburg, 6 bls.

NOTE BOOKS

Keuffel & Esser Co., Washington, Hamburg, 11 cs.

PASTE BOARD

Coty Processing Co., San Pedro, Havre, 5 cs.

MISCELLANEOUS PAPER

Keuffel & Esser Co., Pr. Roosevelt, Hamburg, 21, cs., 18 rolls; Iwai & Co., Tai Ping Kobe, 12 cs.; R. Wilson Paper Corp., Cameronia, Glasgow, 32 cs.; Keller Dorian Paper Co., Excambion, Marseilles, 4cs.; J. H. & G. B. Siebold, Inc., Silverteak, Hong Kong, 10 cs.; Keuffel & Esser Co., Washington, Hamburg, 49 cs.; Standard Products Corp., San Pedro, Havre, 5 cs.

RAGS, BAGGINGS, ETC.

———, New York, Hamburg, 135 bls. rags; Amderutra Transport Corp., Pr. Roosevelt, Hamburg, 1,475 bls. rags; Amderutra Transport Corp., Washington, Hamburg, 94 bls. rags; Van Oppen & Co., Collamer, Havre, 200 bls. bagging; Castle & Overton, Inc., by same, 90 bls. rags; G. W. Millar & Co., Inc., Collamer, Dunkirk, 26 bls. flax waste; E. J. Keller Co., Inc., Collamer, ——, 78 bls. rags; Loumar Textile By-Products Co., Westernland, Antwerp, 72 bls. jute waste; Loumar Textile By-Products Co., Motomar, Barcelona, 70 bls. jute waste; Leigh Textile Co., Inc., by same, 346 bls. cotton waste; Chase National Bank, by same, 70 bls. rags; Bank of N. Y. Trust Co., Motomar, Valencia, 200 bls. rags; E. J. Keller Co., Inc., Motomar, ——, 298 bls. rags; E. J. Keller Co., Inc., Black Eagle, ——, 105 bls. rags; E. J. Keller Co., Inc., Western Prince, ——, 45 bls. rags; E. J. Keller Co., Inc., Excambion, ——, 710 bls. rags; Johns Mansville Co., France Maru, Hamburg, 832 bls. rags; Irving Trust Co., San Pedro, Dunkirk, 37 bls. bagging; E. J. Keller Co., Inc., San Pedro, ——, 31 bls. new cuttings; E. J. Keller Co., Inc.; by same, 69 bls. bagging; E. J. Keller Co., Inc., by same, 24 bls. rags; Bank of Manhattan Co., San Pedro, Havre, 121 bls. bagging.

GLUE STOCK, ETC.

——, New York, Hamburg, 150 bags bone glue; ——, Vulcania, Trieste, 238 bags hide glue; ——, Washington, Hamburg, 120 bags hide glue.

WOOD PULP

Bank of N. Y. Trust Co., New York, Hamburg, 2370 bls. wood pulp, 474 tons; Castle & Overton, Inc., by same, 920 bls. wood pulp, 184 tons; Perkins Goodwin & Co., Stavangerfjord, Drammen, 750 bls. sulphite; The Borregaard Co., Inc., Stavangerfjord, Sarpsborg, 150 bls. sulphate; E. M. Sergeant & Co., Stavangerfjord, Oslo, 150 bls. chemical pulp; J. Andersen & Co., by same, 665 bls. sulphite; Perkins Goodwin & Co., Scanpenn, Stockholm, 612 bls. chemical pulp, 101 tons; Lagerloef Trading Co., Scanpenn, Helsingfors, 1,252 bls. sulphite, 212 tons; Lagerloef Trading Co., by same, 785 bls. sulphate, 157 tons; N. Y. Trust Co., Black Eagle, Rotterdam, 280 bls. wood pulp, 56 tons; ——, Argosy, Gefle, 3,000 bls. sulphite, 609 tons; Price & Pierce, Ltd., Argosy, Wallvik, 450 bls. sulphite, 75 tons.

WOOD PULP BOARDS

Lagerloef Trading Co., Scanpenn, Helsingfors, 76 bls.; ——, Black Eagle, Rotterdam, 216 bls.

BOSTON IMPORTS

WEEK ENDING MARCH 10, 1934

——, Adriatic, Liverpool, 528 bags, hide cuttings; ——, by same, 131 bls. rags; F. S. Webster Co., by same, 12 cs. tissue paper; G. F. Malcolm, Inc., by same, 16 cs. tissue paper; ——, Excambion, Alexandria, 110 bls. bagging; Atkinson Haserick & Co., Excambion, Genoa, 11 cs. wrapping paper; Brown Bros. Harriman & Co., Amer. Banker, London, 253 bls. waste paper; Brown Bros. Harriman & Co., by same, 261 coils old rope; Union Trust Co., by same, 76 bls. waste paper; E. J. Keller Co., Inc., American Banker, ——, 43 bls. rags; Bulkley Dunton & Co., Strassa, ——, 2,250 bls. wood pulp; Bulkley Dunton & Co., Wido, ——, 500 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 10, 1934

Castle & Overton, Inc., Collamer, Havre, 263 bls. rags; Castle & Overton, Inc., Collamer, Dunkirk, 221 bls. rags; Phila. National Bank, by same, 192 bls. rags; Loumar Textile By-Products, by same, 167 bls. rags; E. J. Keller Co., Inc., Collamer, ——, 120 bls. rags; E. J. Keller Co., Inc., San Pedro, ——, 149 bls. rags; Bank of Manhattan Co., San Pedro, Havre, 58 bls. rags; F. Weber & Co., Motomar, Barcelona, 8 cs. drawing paper; Gottesman & Co., Inc., Argosy, Sweden, 1,000 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING MARCH 10, 1934

National City Bank, San Pedro, Havre, 101 bls. rags; Bulkley Dunton & Co., Argosy, ——, 6,250 bls. wood pulp; Bulkley Dunton & Co., West Arrow, ——, 1,775 bls. wood pulp; Bulkley Dunton & Co., Alssund, ——, 3,900 bls. wood pulp; Gottesman & Co., Inc., Alssund, Sweden, 1,000 bls. wood pulp; E. J. Keller Co., Inc., City of Newport News, ——, 336 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING MARCH 10, 1934

Bulkley Dunton & Co., Toledo, ——, 19,635 bls. wood pulp.

Haverhill Boxboards Chartered

HAVERHILL, Mass., March 5, 1934—Robert Gair Company, Inc., has announced the incorporation of its Haverhill Division as a wholly-owned subsidiary under the name of Haverhill Boxboards, Inc., effective March 1, 1934.

Paper Machinery

Die Papierfabrikation und deren Maschinen. Band IIA. Erganzungen zum II Band: Die Papiermaschinen nebst Karton-und Pappenmaschinen, sowie die Fertigstellung des Papiers. Friedrich Muller. Biberach-Riss, Gunter-Staib Verlag, 1933. 213 p. 98 diagrams. Price, bound, RM 18.

Volume two of this series appeared in 1928; in place of a completely revised edition of this work, the author has thought it advisable to issue this supplementary volume, with references to the pages of the first edition to which the new material appears.

New data are given for the following topics: regulation of pulp and pulp density; purification of pulp; pulp and water relations for various kinds of paper at different places on the machine; drying of paper with steam and air; the surface temperature of drying cylinders; methods of improving the thermal efficiency of driers; paper machine drives; board machines; calenders; etc.

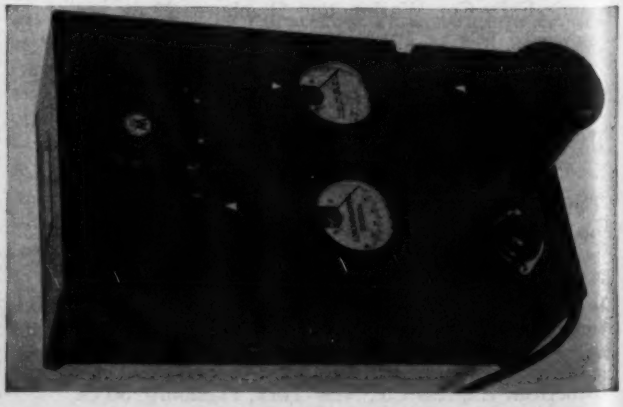
The text contains 98 illustrations of paper making machinery, special setups for experimental work and mill use and curves of results, and also many tables of original data. There are some references to the literature and to German patents. Most of the material is of German origin, although the drying systems of Minton, Crane, Farnsworth and Fulton are described, the material being taken in large part from Weston's "Lectures on pulp and paper mill machinery." However, to one who reads German easily, the book will bring a large number of new ideas.—CLARENCE J. WEST.

Measuring Translucency

How thin may paper be and yet be sufficiently opaque to carry printing on both sides of the sheet without showing through? The answer to the question depends on several factors but in final result, the printer selects a paper which has a satisfactory opacity. The paper manufacturer then has the problem of producing a paper which does not vary from this standard of the printer.

The transometer, among the recent products of the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., is a simple, portable instrument which reduces the measurement of tranmittency to exactness. It provides the manufacturer, dealer, and user of paper with a reference standard by which the opacity of paper or thin materials can be easily measured.

The principle of operation is extremely simple; a lamp shines on a photox light-sensitive cell, and the output of the cell registers on an instrument. With no paper between lamp and cell, the instrument is adjusted to read 100 since this condition represents 100 per cent translucency. When paper is inserted under the cell, the reading shows the percentage of transmitted light. A regulator holds the lamp voltage constant.



New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 14, 1934.

Trading in the local paper market was only moderately active during the past week. However, inquiries for future account are fairly numerous, some of which should materialize into good orders. Sales forces of the leading paper organizations continue optimistic. Prices are holding to previously quoted levels.

The position of the news print paper market continues to improve. Consumption is running approximately 11 per cent higher than at this time last year. Advertising volume in the leading newspapers during January and February showed an 11 per cent gain over the corresponding period of 1933.

Production of paper board is being maintained in sufficient volume to take care of current requirements. Demand for box board is fairly active. Prices continue steady. The fine paper market is rather quiet at present. Tissues are moving in good volume. The coarse paper market is holding up well.

Mechanical Pulp

The ground wood pulp market continues firm. Manufacturing operations, both in the United States and abroad, are curtailed and there are no undue accumulations. As a result the statistical position of the industry is strong. Prices are being maintained at the recently advanced schedule.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Demand for both domestic and imported grades is rather restricted at present, with the exception of kraft pulp, which is quite active. There are a number of inquiries for future needs around, however, and the outlook is fairly promising.

Old Rope and Bagging

The old rope market is practically marking time. Domestic and foreign old manila rope is in light request. Small mixed rope is moving slowly. Old rope prices remain unchanged. The bagging market is exhibiting a strong undertone. Scrap and gunny bagging prices are firm. Roofing bagging is steady.

Rags

Conditions in the domestic rag market are fairly satisfactory. Demand for new cotton rags is mainly along routine lines. No. 1 white shirt cuttings continue firm, with offerings scarce. Roofing grades are stronger. The imported rag market is affected by the foreign exchange situation.

Waste Paper

The paper stock market is steady and practically unchanged. Board mill demand for the lower grades is fairly active. Strictly folded news and No. 1 mixed paper quotations are well sustained. Recent advances on the higher grades of waste paper, including hard and soft white shavings and book stock, are being maintained.

Twine

With the approach of Easter, business in the twine market is fairly buoyant. Demand for the various grades is well up to average for the season. Supplies are moving into consumption in good volume for the time of year. Despite the usual keen competition for desirable orders, prices remain unchanged.

Miami Paper Shippers Meet

DAYTON, Ohio, March 12, 1934—The annual meeting of the Miami Valley Paper Shippers' Association was held in Middletown last Friday, at which matters of interest to the trade were discussed. J. J. Hollowell, of the Wrenn Paper Company, was elected president. He succeeds C. J. Nicol, one of the founders of the organization.

Other officers chosen were H. W. Winship, West Carrollton, vice-president; Thomas Costello, of the Gardner-Richardson Company, Middletown, treasurer.

The Association members reported business conditions on the mend. They received a report at the meeting which showed that paper shipments are increasing steadily.

A 50 per cent increase in the shipments in February, as compared to the same month in 1933 was recorded, according to reports from all mills in this section. The weight of shipments during the month totaled 3,146,708 pounds, constituting shipments to all parts of the country.

The Miami Valley Paper Shippers' Association has removed its offices into the Civic Association Building, Middletown. The Association recently appointed Ralph Cohen as secretary of the organization. Cohen, a former Daytonian, recently was identified with an Evansville, Ind., advertising agency and with the Indianapolis office of the National Broadcasting Company.

The Miami Valley Paper Shippers' organization is composed of 20 mill members and was formed for mutual effort in traffic and sales promotions. Cohen will direct traffic and promotional work.

Open Joint Chicago Office

The Bennington Wax Paper Company and Ben Mont Fancy Papers, Inc., with mills at Benningotn, Vt., manufacturers of the well known line of "Ben Mont" papers, join in announcing the opening of a Chicago office at Room 1540 Merchandise Mart.

This office will be headquarters for fifteen middle western states and its chief purpose is to give a better service to new and old customers.

The lines include waxed papers, Christmas and every day wraps, shelf and lining paper, shredded waxed paper, box coverings, flints, transparent cellulose, glassines, foils, parchments and tissues. Also a line of tissue ribbons.

The office will be in charge of Theodore Lax, Middle Western manager for both companies.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 14, 1934.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. The contract movement is well up to average. Prices are maintained at formerly quoted levels. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is marking time. Domestic standard ground is quoted at 12 cents and finely ground at 13 cents per pound. Argentine standard ground is selling at 15½ cents and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is expanding. Contract shipments are moving in good volume. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying strength. Prices are holding to schedule without difficulty. Foreign china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at works.

CHLORINE.—Conditions in the chlorine market are satisfactory. The contract movement is fairly heavy. Prices continue steady to firm. Chlorine is quoted at from $2 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is easier. The grades of gum rosin used in the paper mills are now quoted at from $6.20 to $6.45 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.90 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Paper mill demand for salt cake is persistent. Salt cake is still quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works; while imported salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market continues firm. Shipments against contract are going forward regularly. Quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.10; in bags, $1.04; and in barrels, $1.50.

STARCH.—Trading in the starch market is moderately active. Contract shipments are moving in fairly good volume. Prices remain steady. Special paper making starch is quoted at $2.67 per 100 pounds, in bags; and at $2.95 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Sentiment in the sulphate of alumina market continues optimistic. Prices are steady. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The su'phur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby carloads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the past week was along routine lines. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.35
Coated Litho	5.90	@	6.35
Tissues—Per Ream—			
White No. 1	.60	@	.80
White No. 2	.55	@	.70
Anti-Tarnish M. G. only	.75	@	.80
Colored	.80	@	1.00
Kraft	.75	@	.80
Manila	.65	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.11	@	—
No. 2	.10	@	—
Bleached, basis 30 lbs.	.13	@	—
(Delivered New York)			
News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Side Runs	25.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sgl. Mla. Ll. Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	60.00	@	65.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	27.00	@	29.00
Dry	27.00	@	30.00
(F.o.b. Mill)			
No. 1 Domestic and Canadian	24.00	@	29.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4, Lower than Standard	2.10	@	—
(On Dock, Atlantic Ports)			
Kraft No. 1	1.75	@	1.90
Kraft No. 2	1.60	@	1.70
(F.o.b. Pulp Mill)			
Kraft Domestic (Delivered)	1.60	@	2.75
Soda Bleached	2.50	@	—

* Add 5 Cents for Albany and 15 Cents for Lake Ports.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.15	@	1.30
No. 2	.85	@	.90
No. 3	.75	@	.80
No. 4	.70	@	.75
No. 5A	.65	@	.70

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	3.75	@	4.00
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.50	@	1.75
Dark Cottons	1.15	@	1.30
Old Shopperies	1.00	@	1.10
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.25	@	1.35
Bright Bagging	1.20	@	1.30
Manila Rope—			
Foreign	2.40	@	2.50
Domestic	2.50	@	2.75
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.65	@	2.75
Ordinary Hard White No. 1	2.35	@	2.45
Hard White No. 2	2.10	@	2.20
Soft White No. 1	2.00	@	2.10
Flat Stock—			
Stitchless	.95	@	1.05
Over issue Mag	.95	@	1.05
Solid Flat Book	.85	@	.95
Crumpled No. 1	.65	@	.75
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.05	@	1.15
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.65	@	1.75
New Cuttings	1.20	@	1.30
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.25	@	1.35
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue	.70	@	.75
Strictly Folded	.50	@	.55
No. 1 Mixed Paper	.35	@	.40

Twines
(F. o. b. Mill)

Cotton—
B. C. 18 basis .... .20 @ .22
No. 1 .... .20 @ .22
No. 2 .... .19 @ .20
No. 3 .... .17 @ .18
A. Italian, 18 basis .36 @ .37
Flaxed Jute—
Dark, 18 basis .... .18 @ .20
Light, 18 basis .... .20 @ .22
Jute Wrapping, 3-6 Ply—
No. 1 .... .15½ @ .16½
No. 2 .... .15 @ .16
Tube Rope—
4-ply and larger ... .09¼ @ .09¼
Fine Tube Rope—
4-ply .... .11¼ @ .11¼
3-ply .... .14¼ @ .14¼
2-ply .... .14¼ @ .14¼
Paper Makers Twine .08¼ @ .13¼
Box Twine, 2-3 ply .. .14¼ @ .14¼
White Hemp .... .13¼ @ .16¼
Java Sisal—
No. 1 Basis .... .11½ @ —
No. 2 Basis .... .10½ @ —
New Zealand Sisal .. .11½ @ —
Sisal Lath Yarn—
No. 1 .... .13½ @ .15½
No. 2 .... .11½ @ .13½
Manila Twine .... .24½ @ .29½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond .... .12 @ .50
Water Marked Sulphite Bond .... .06¼ @ .15
Sulphite Bond .... .05½ @ .15
Superfine Writing ... .18 @ .24
No. 1 M. F. Book .. .06½ @ .07¼
No. 2 M. F. Book .. .05¼ @ .06¼
No. 1 S.&S.C. Book .06¼ @ .07¼
No. 2 S.&S.C. Book .05¼ @ .06½
Coated Book .... .07 @ .12
Coated Label .... .07 @ .08½
No. 1 Manila .... .04¼ @ .05½
No. 1 Fibre .... .04½ @ .05½
No. 2 Manila .... .04½ @ .04¾
Butcher's Manila .... .03¼ @ .03¼
No. 1 Kraft .... 4.75 @ 5.00
Southern Kraft .... 3.88 @ 4.25
No. 2 Kraft .... 3.88 @ 4.25
Wood Tag Boards .... .04¼ @ .05¼
Sulphite Screenings .. .03 @ .03½
Manila Tissue .... .05½ @ .07
White Tissue .... .07 @ .09

(Delivered Central Territory)

News, per ton—
Rolls, contract .... 41.00 @ —
Sheets, open .... 46.00 @ 51.00
Boards, per ton—
Plain Chip .... 46.50 @ —
Solid News .... 50.00 @ —
Manila Lined Chip ... 55.00 @ —
Patent coated .... 65.00 @ —
Container Lined—
85 Test, per 1000 sq. ft. 1.70
100 Test, per 1000 sq. ft. 1.85

Old Papers
(F. o. b. Chicago)

Shavings—
No. 1 White Envelope cuttings ... 1.70 @ 2.00
No. 1 Hard White .. 1.40 @ 1.65
No. 1 Soft White .. 1.25 @ 1.50
Ledger & Writings .. .70 @ .80
Solid Books .... .60 @ .70
Blanks .... 1.00 @ 1.05
Krafts .... .80 @ .90
New Kraft Cuts .... 1.20 @ 1.30
Manila Env. Cuts ... 1.25 @ 1.30
Ex. No. 1 Manila .... .90 @ 1.00
Print Manila .... .50 @ .55
Overissue News .... .60 @ .70
Old Newspapers—
No. 1 .... .50 @ .55
Mixed Papers—
No. 1 .... .30 @ .35
Roofing Stocks—
No. 1 .... 30.00 @ —
No. 2 .... 28.00 @ —

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds .... .04 @ .40
Ledgers .... .06 @ .40
Writings—
Superfine .... .10 @ .18
Extra Fine .... .15 @ .26
Fine .... .15 @ .26
Fine, No. 2 .... .10 @ .25
Fine No. 3 .... .05½ @ .18
Book, M. F. .... .04¼ @ .07
Book, S. S. & C. .... .05 @ .07½
Book, Coated .... .06 @ .16
Coated Lithograph .... .06 @ .11
Label .... .07 @ .11
No. 1 Jute Manila .. .06 @ .10
Manila Sul., No. 1 .. .03 @ .06
Manila No. 2 .... .03 @ .05
No. 1 Kraft .... .05¼ @ .06½
No. 2 Kraft .... .03¼ @ .05
Southern Kraft .... 2.75 @ 4.00
Common Bogus .... .03 @ .04½

(Delivered Philadelphia)

News Print Rolls .... 46.00 @ 55.00
Straw Board .... 40.00 @ 45.00
News Board .... 50.00 @ —
Chip Board .... 45.00 @ —
Wood Pulp Board ... 70.00 @ 85.00
Binder Boards—
No. 1, per ton .... 75.00 @ 80.00
No. 2, per ton .... 70.00 @ 75.00
Carload lots .... 65.00 @ 70.00
Tarred Felts—
Regular .... 52.25 @ 54.25
Slaters (per roll) .. .84 @ .94
Best Tarred, 1-ply (per roll) .... 1.95 @ 2.10
Best Tarred, 2-ply (per roll) .... 1.50 @ 1.60
Best Tarred, 3-ply ... 2.00 @ 2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—
New White, No. 1. .03½ @ .04
New White, No. 2. .02½ @ .04
Light Silesias .... .02½ @ .03
Silesias, No. 1 .... .03 @ .03¼
Black Silesias, soft. .02½ @ .03
New Unbleached .. .05 @ .05½
Washable, No. 1 .. .01½ @ .02
Blue Overall .... .03½ @ .04
Cottons—According to grades—
Washable, No. 2 .. .02½ @ .03
New Blue .... .01½ @ .03
Fancy .... .01½ @ .03
New Black Soft .. .02 @ .04
New Light Seconds .01½ @ .02
New Dark Seconds 1.50 @ 1.75
Khaki Cuttings—
No. 1 O.D. .... .03 @ .04
No. 2 Mixed .... .03 @ .04
Corduroy .... .02 @ .03
New Canvas .... .03½ @ .04½
New Black Mixed . .02½ @ .03½

Domestic Rags (Old)
White No. 1—
Repacked .... 2.50 @ 3.50
Miscellaneous .... 1.75 @ 2.25
M. G. .... 3.00 @ 3.75
Thirds and Blues—
Miscellaneous .... 1.00 @ 1.50
Repacked .... 1.50 @ 2.00
Black Stockings (Export) .... 2.00 @ 3.50
Roofing Stock—
Foreign No. 1 .... .50 @ .75
Repacked .... .70 @ .85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—
Foreign .... 1.25 @ 1.30
Domestic .... 1.50 @ 1.75
Manila Rope .... 2.00 @ 2.25
Sisal Rope .... 1.25 @ 1.50
Mixed Rope .... 1.00 @ 1.10
Scrap Burlaps—
No. 1 .... 1.25 @ 1.30
No. 2 .... .80 @ 1.00
Wool Tares, heavy .. 2.75 @ —
Mixed Strings .... 1.15 @ 1.25
No. 1 New Light Burlap .... 2.25 @ 2.35
New Burlap Cuttings 2.00 @ 2.25

Old Papers
(F. o. b. Phila.)

Shavings—
No. 1 Hard White. 2.25 @ 2.30
No. 2 Hard White. 2.00 @ 2.10
No. 1 Soft White .. 2.05 @ 2.10
No. 2 Soft White .. 1.50 @ 1.60
No. 1 Mixed .... .95 @ 1.00
No. 2 Mixed .... .75 @ .80
Solid Ledger Stock .. 1.50 @ 1.60
Writing Paper .... 1.25 @ 1.50
No. 1 Books, heavy .. .90 @ 1.00
No. 2 Books, light .. .70 @ .80
No. 1 New Manila .. 1.20 @ 1.50
No. 1 Old Manila .. .85 @ .90
Print Manila .... .75 @ .80
Container Manila .... .65 @ .70
Old Kraft .... 1.00 @ 1.10
Common Paper .... .35 @ .40
No. 1 Mixed Paper .. .40 @ .45
Straw Board Chip .. .40 @ .45
Binders Board Chip. .40 @ .45
Corrugated Board ... .60 @ .70
Overissue News .... .60 @ .65
Old Newspapers .... .40 @ .50

BOSTON

Paper
(F. o. b. Mill)

Ledgers—
Sulphite .... .04 @ .12½
Rag Content .... .12 @ .30
All Rag .... .36 @ .52½
Bonds—
Sulphite .... .05½ @ .11
Rag Content .... .12 @ .30
All Rag .... .36 @ .45
Writings .... .06½ @ .20
Superfines .... .11 @ .51
Book, Super .... .06 @ .09
Book, M. F. .... .05½ @ .08½
Book, Coated .... .08½ @ .18
Coated Litho .... .09 @ .12
Label .... .09½ @ .15
Jute Manila No. 1 . .11 @ .13
Manila, Sul. No. 1 . .04¼ @ .06½
Manila, Sul. No. 2 . .03¼ @ .04½
No. 1 Kraft .... .04½ @ .05
No. 2 Kraft .... .03½ @ .04¼

(F. o. b. Boston)

Southern Kraft .... .03½ @ .04½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus .... .02 @ .02¼

(Delivered New England points)

News Print, rolls .... 44.50 @ —
Straw Board, rolls .009 — @ 35.00
Straw Board in Sheets, basis 35s to 70s .... — @ 40.00
Filled News Board .. 45.00 @ 50.00
Chip Board .... 42.50 @ 47.00
Chip Board (Creasing) .... 45.00 @ —
Single Manila Lined Chip .... 52.50 @ 62.50
Single White, Patent Coated News Board—Bender .... 62.50 @ 72.50
Wood Pulp Board .. 70.00 @ 75.00
Binder Boards .... 62.00 @ 75.00

Old Papers
(F. o. b. Boston)

Shavings—
No. 1 Hard White. 2.40 @ —
No. 1 Soft White .. 1.75 @ 2.00
No. 2 Mixed .... .75 @ .80
Solid Ledger Books. 1.40 @ 1.50
Overissue Ledger Stock .... 1.15 @ 1.30
Mixed Ledgers .... 1.00 @ 1.10
No. 1 Books, heavy .. .90 @ 1.00
No. 1 Books, light .. .65 @ .75
Crumpled Stitchless Book Stock .... .50 @ .60
Manila Env. Cuttings 1.25 @ 1.30
No. 1 Old Manila . .95 @ 1.05
White Blank News .. 1.20 @ 1.30
No. 1 Kraft .... 1.20 @ —
Manila .... .75 @ .80
No. 1 Mixed Papers . .35 @ .40
Print Manila .... .45 @ .50
Overissue News .... .55 @ .60
Old Newspapers .... .50 @ .57½
Box Board Chips .... .32½ @ .35
Corrugated Boxes .... .45 @ .55
Screening Wrappers .. .60 @ .70

Bagging
(F. o. b. Boston)

Manila Rope—
Foreign .... — @ 2.25
Domestic .... — @ 2.50
Transmission Rope ... 1.60 @ —
Mixed Strings .... — @ .60
Jute Rope .... 1.35 @ —
Jute Carpet Threads. .65 @ .70
Gunny No. 1—
Foreign .... 1.50 @ —
Domestic .... 1.20 @ 1.30
Bleachery Burlap .... 3.00 @ 3.25
Scrap Burlap .... 1.15 @ —
Scrap Sisal .... 1.25 @ 1.35
Scrap Sisal for shredding .... 1.25 @ 1.35
Wool Tares, heavy .. — @ 1.25
New Burlap Cuttings 1.35 @ 1.60
Australian Wool Pouches .... 2.25 @ 2.50
Heavy Baling Bagging .... 1.40 @ 1.50
Paper Mill Bagging .. .90 @ 1.10
Bagging No. 2 .... .40 @ .50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—
New Light Prints. .02 @ .02¼
New White No. 1. .06½ @ —
New White No. 2. .04½ @ .05
Silesias No. 1 .... .04 @ —
New Black Silesias .02½ @ .03
New Unbleached .... .07 @ .07¼
Blue Cheviot .... — @ 4.65
Fancy .... — @ .02½
Washable .... .02¼ @ —
Cottons—According to grades—
Blue Overalls .... — @ .03¼
New Black, soft .... .04 @ .04½
Khaki Cuttings .... .03 @ .03½
O. D. Khaki .... .03 @ .03¼
Corduroy .... .01¾ @ .02
New Canvas .... — @ .05
B.V.D. Cuttings .... — @ .06¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas .... .04½ @ —
White No. 1—
Repacked .... 3.00 @ 3.50
Miscellaneous .... 2.00 @ 2.25
White No. 2—
Repacked .... 2.00 @ 2.25
Miscellaneous .... 2.00 @ 2.75
Twos and Blues .... 1.25 @ 1.50
Thirds and Blues
Repacked .... 1.10 @ 1.25
Miscellaneous .... .85 @ .90
Black Stockings .... 2.25 @ 2.50
Roofing Stock
No. 1 .... 1.20 @ 1.25
No. 2 .... .80 @ —
No. 3 .... .65 @ .70

Foreign Rags
(F. o. b. Boston)

Dark Cottons .... 1.25 @ 1.40
New White Shirt Cuttings .... 5.50 @ 6.00
Dutch Blues .... 2.00 @ 2.50
New Checks & Blues 2.50 @ 3.00
Old Fustians .... 1.55 @ 1.60
Old Linsey Garments 1.40 @ 1.50

TORONTO

Paper
(F. o. b. Mill)

Bond—
No. 1 Sulphite .... .10¼ @ —
No. 2 Sulphite .... .08½ @ —
No. 1 Colored .... .10¼ @ —
No. 2 Colored .... .09 @ .10
Ledgers (sulphite)
Ledgers, No. 1 .... .34½ @ —
Ledgers, No. 2 .... .25½ @ —
Writing .... .09 @ .09½
Book—
No. 1 M. F. (Carloads) .... 6.20 @ —
No. 3 M. F. (Carloads) .... 5.70 @ —
No. 4 M. F. (carloads) .... 4.75 @ —
No. 1 S. C. (carloads) .... 6.65 @ —
No. 3 S. C. (carloads) .... 6.20 @ —
No. 4 S. C. (carloads) .... 5.20 @ —
No. 1 Coated and Litho .... 12.00 @ —
No. 2 Coated and Litho .... 10.50 @ —
No. 3 Coated and Litho .... 9.50 @ —
Coated tinted .... 14.00 @ —
Wrapping—
Rag Brown .... 4.25 @ —
White Wrap .... 2.22½ @ —
"B" Manila .... 4.75 @ —
No. 1 Manila .... 5.25 @ —
Fiber .... 5.25 @ —
Kraft, M. F. .... 5.75 @ —
Kraft No. 2 .... 5.25 @ —

(F.O.B. Cars Toronto)

News, per ton—
Rolls (contract) ... 45.50 @ —
Sheets .... 50.50 @ —

Pulp
(F. o. b. Mill)

Ground Wood .... 18.00 @ 20.00
Sulphite easy bleaching .... 40.00 @ —
Sulphite, news grade. 38.00 @ —
Sulphite, bleached .... 50.00 @ 55.00
Sulphate .... 50.00 @ —

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—
White Env. Cut ... 2.00 @ 2.10
Soft White .... 1.60 @ 1.90
White Blk. News .. 1.25 @ 1.50
Book and Ledger—
Flat Magazine and Book Stock (old) .90 @ 1.00
Light and Crumpled Book Stock. .80 @ .90
Ledgers and Writings .... 1.00 @ 1.05
Manilas—
New Manila Cut .. 1.25 @ 1.50
Printed Manilas ... .70 @ —
Kraft .... 1.25 @ 1.50
News and Scrap—
Strictly Overissue .. 1.00 @ —
Strictly Folded .... .70 @ —
No. 1 Mixed Paper .. .60 @ —

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings .... .03¼ @ .03½
Fancy Shirt Cuttings .02½ @ .02½

What Is A Good Machine Tender?

By J. O. PARKS, KELSO, WASH.

Having been for years in a position to observe many different machine tenders on a very wide range of work I thought a few comments on "What is a Good Machine Tender?" might not be out of place.

In brief the best machine tender is the one who has the ability to obtain the maximum quality or production and at the same time has the judgment necessary to determine what balance of quality or production is in keeping with each individual job.

Some men are truly "speed artists." Give them a high speed news job and they cannot be beat. However, they frequently fall down completely where quality is desired particularly, where the test, tensile, tear, frequent changes, or other factors are not in keeping with high speed.

Other machine tenders are just the opposite. On machines of moderate speed, if given fair materials with which to work, they produce a very close approach to perfection and even under adverse conditions the quality and uniformity they obtain is surprising. However, they are hopelessly lost on fast Kraft jobs, or in a new mill, where profit depends, not so much on quality but on top-notch speed.

Occasionally one sees a machine tender who can balance these factors to suit each job. He has developed the judgment to determine just about what quality is in keeping with each job and has the ability to get the quality and production that results in the greatest satisfaction for the concern for which he works. He is the type of machine tender who can go to work in any mill, get the specifications, run his machine with little fuss and worry and with a minimum of trouble. His record always shows a satisfactory sheet and a reasonable production report as far as the machine room is concerned.

There are other machine tenders who know as much about running a machine as these exceptional men but for different reasons don't get results. Frequently it is simply a case of not developing their judgment or not applying ordinary machine running sense.

One outstanding machine tender was a man who knew very little about many of the theories and technical facts about making paper. He did know that certain fundamental rules had to be followed in order to avoid trouble. He seldom had to bother about analyzing troubles and overcoming them because he simply performed his duties in such a way that trouble rarely appeared. His idea of machine running was that there was only one correct way and this was always the best and quickest.

Had a man of this natural ability and foresight been given the advantages of a technical trade school pertaining to this trade such as the printers' union have for years sponsored pertaining to their trade, this man would have been a genius.

Now that paper control is with us to stay it would greatly increase the value of every machine tender if a course of training was mapped out, so that the technical facts, terms applied, results to be obtained were more thoroughly understood.

Awards for Government Paper

WASHINGTON, D. C., March 14, 1934—The Government Printing Office has announced the following paper awards for open market purchases.

Barton, Duer & Koch Paper Company will furnish 250,000 pounds of manila calendered tag board in 23¼ and 26½-inch rolls at 7 cents per pound, bids for which were received on March 2.

The Aetna Paper Company will furnish 3,000 pounds of white sulphite ledger paper in 24½-inch rolls at 5.96 cents per pound, bids for which were received on February 28.

R. P. Andrews Paper Company will furnish 2,000 pounds of 17x28—51, yellow safety writing paper at 10.8 cents per pound and Reese & Reese, will furnish 11,500 pounds of 21x32, 50 per cent rag blue ledger paper at 16 cents per pound. Bids for these items were received on February 26.

Barton, Duer & Koch Paper Company will furnish 10,000 pounds of green and 10,000 pounds of pink, calendered tag board in 23¼-inch rolls at 7.75 cents per pound and the Virginia Paper Company will furnish 396 pounds of 28x42 golden rod coated book paper at 12.5 cents per pound. Bids for these items were received on February 23.

R. P. Andrews Paper Company will furnish 11,500 pounds of 24x38 offset book paper at 5.57 cents per pound and the Cauthorne Paper Company will furnish 21,000 pounds of pink, 15,000 pounds of green and 36,000 pounds of buff, 32x42 sulphite writing paper at 5.82 cents per pound. Bids for these items were received on February 21.

The Aetna Paper Company will furnish 97,000 pounds of single ply 50 per cent rag white index paper, 21x32½ at 13.96 cents per pound. Barton, Duer & Koch Paper Company will furnish 100,000 pounds of manila calendered tag board in 23¼ and 26½ rolls at 7 cents per pound and The Virginia Paper Company will furnish 100,000 sheets of 17x22—40 white gummed paper at $4.34 per M sheets. Bids for these items were received on February 19.

The Virginia Paper Company will furnish 58,000 pounds of various sized chip board .040 thickness at 1.779 cents per pound, bids for which were received on February 16.

Government Information Service Aids Industry

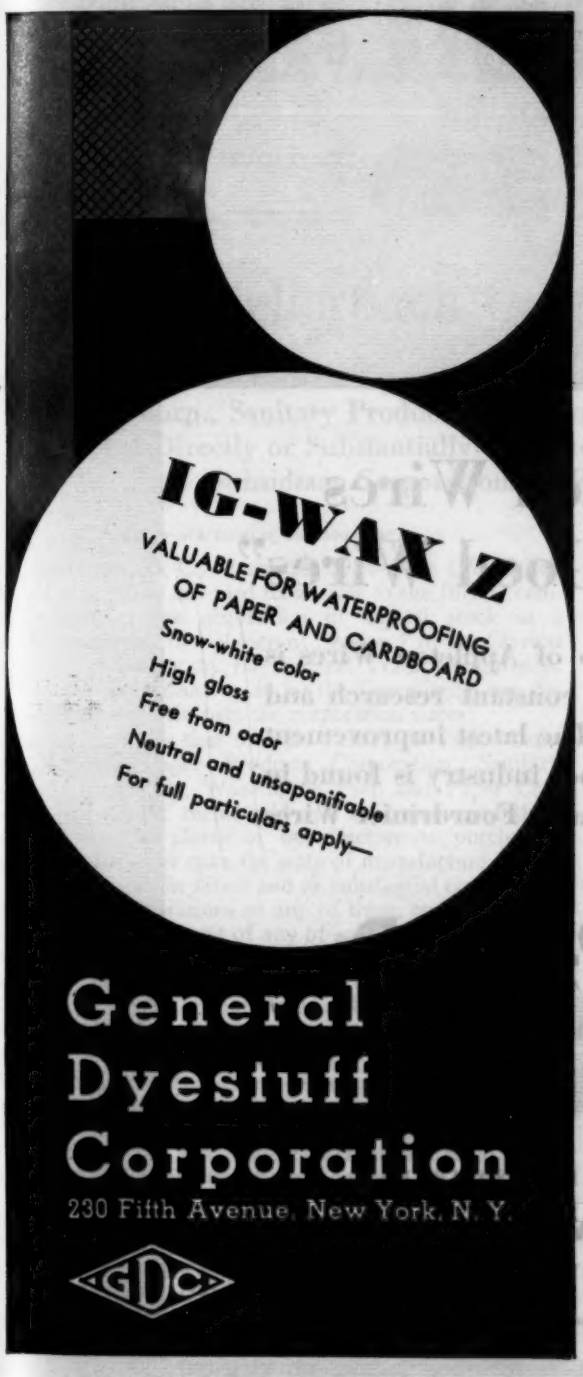
One way in which the Bureau of Standards, Washington, D. C., assists business is to serve as a clearing house for information on commodities. Prospective purchasers often turn to the Bureau for information on sources of supply. When such inquiries are referred to possible sources, they sometimes lead to development of new American products. A recent instance of this is Japanese tissue paper. The unusual combination of softness and high strength in this paper makes it particularly suitable for such important uses as manufacture of stencils for duplicating machines, and cleansing of glass of optical instruments. Heretofore, such paper has been made exclusively in Japan because some of the fibrous raw materials peculiar to that country are especially suitable for this type of paper. The Bureau has recently been informed of the successful development of an American product of this kind, which was undertaken as a result of inquiries received by the Bureau for a domestic source of supply. The Bureau makes every effort to keep abreast with industrial developments so as to be able to render as much service as possible in the manufacture and use of domestic products.

Argentina's Casein Exports

Exports of casein from Argentine in 1933 reached the highest volume level yet attained, according to a report to the Commerce Department from Assistant Trade Commissioner J. B. Smith, Buenos Aires.

Total shipments during the year amounted to 23,038 compared with 17,680 tons in 1932 and a 12-year average of 15,853 tons. Germany was the most important outlet in 1933, total shipments to that market exceeding 9,000 metric tons, a figure slightly under that of 1932.

Exports to England, amounting to 3,400 metric tons, were the largest ever recorded to that market. Shipments to the United States amounted to 3,210 metric tons compared with only 319 tons in 1932. Average annual exports to the United States for the past twelve years were 6,848 metric tons.



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Want and For Sale Advertisements, 62-63

"Appleton Wires Are Good Wires"

The leadership of Appleton Wires is maintained by constant research and development. The latest improvement offered the paper industry is found in Appleton Phosaloy Fourdrinier Wires with the

APP-WELD
PATENTED
SEAMLESS JOINT

WRITE FOR SAMPLES

THE APPLETON WIRE WORKS, Inc.

APPLETON, WISCONSIN, U. S. A.

U. S. Patent No. 1895605. Others Pending

BRINGS ADDED LIFE TO APPLETON PHOSALOY FOURDRINIER WIRES